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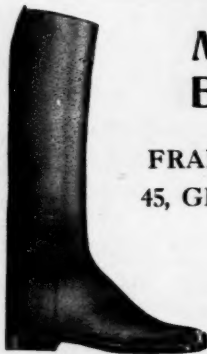
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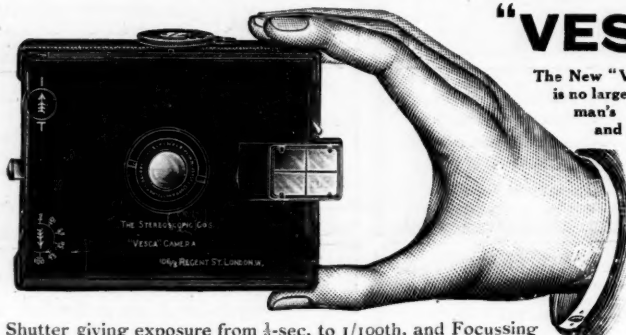
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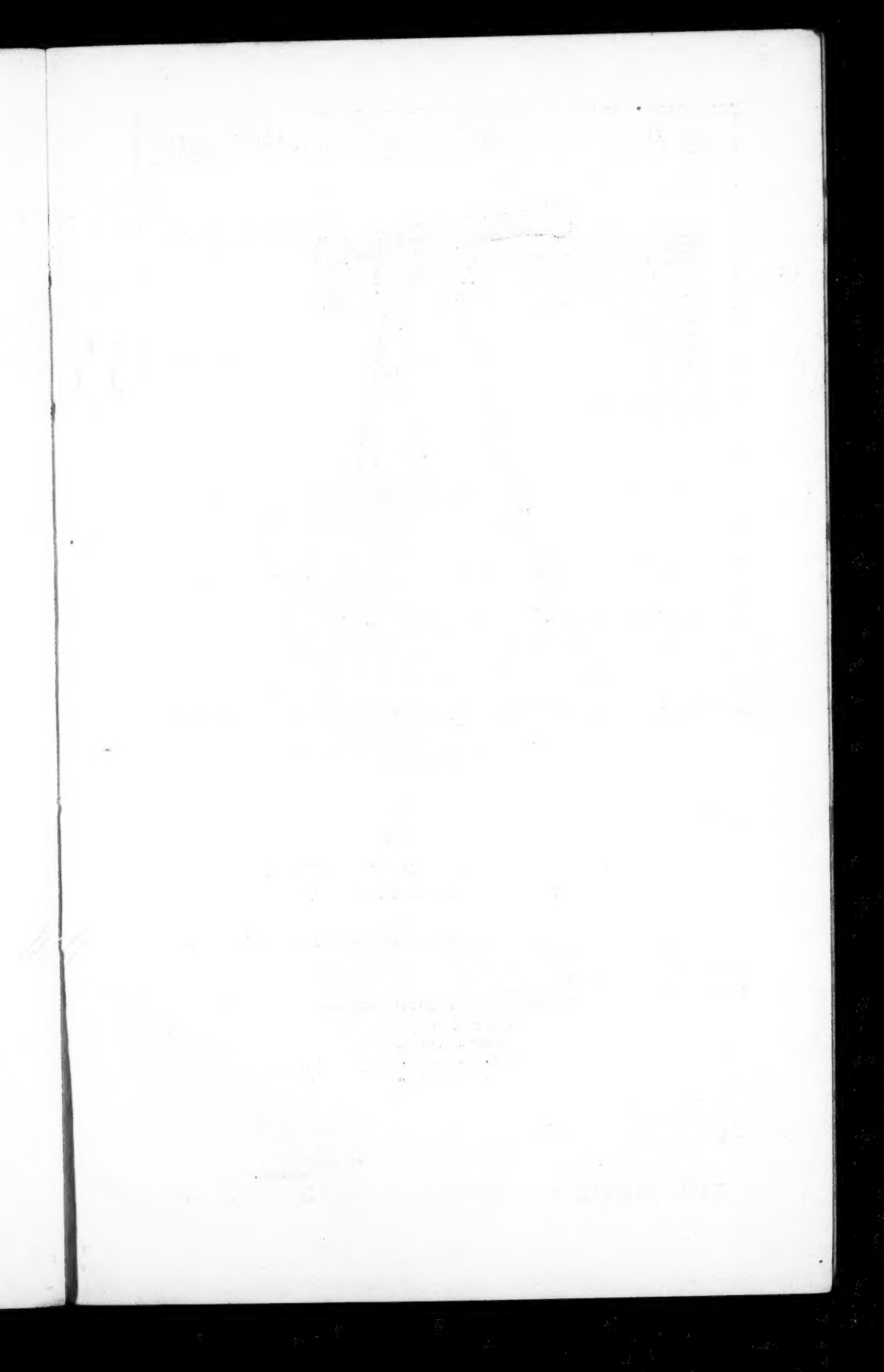
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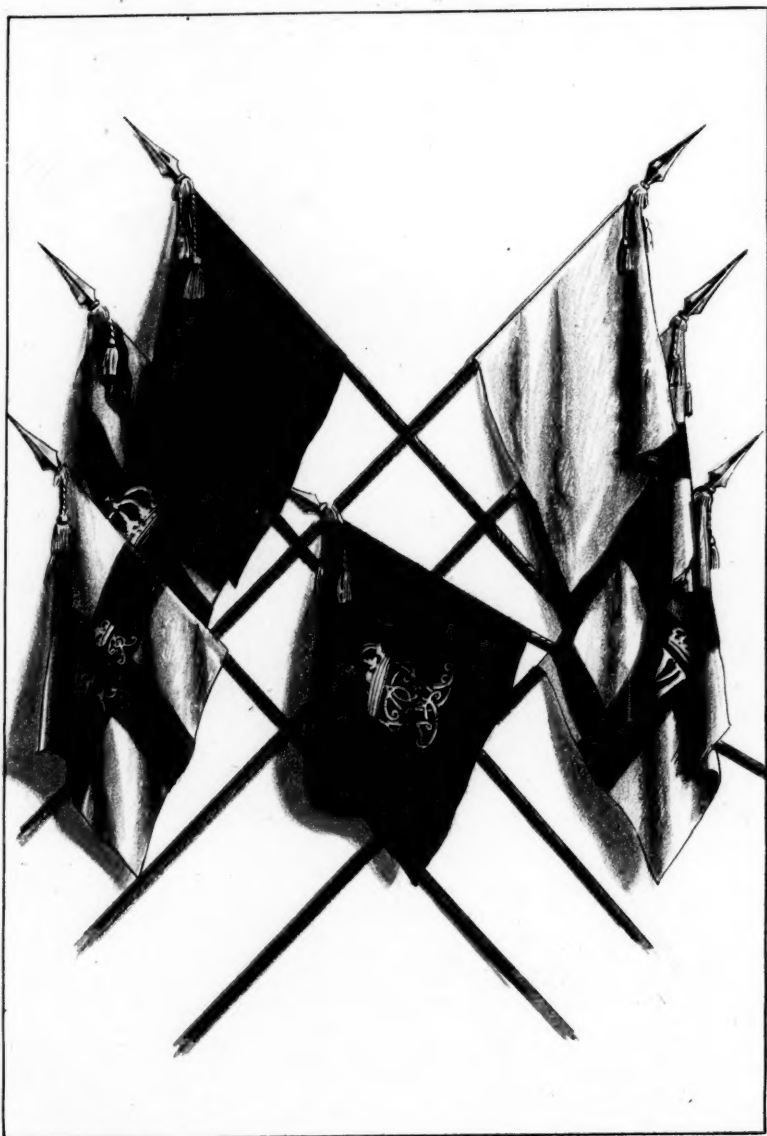
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Major's Company.
2nd Battalion Company.

1st FOOT GUARDS.

The King's Own Company.

2nd FOOT GUARDS.

Colonel's Company.
Lieut.-Colonel's Company.
Sixth Battalion Company.

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ERRATUM—DECEMBER JOURNAL.

Page 1654 (Military Notes). *Recruiting Statistics for 1907*, which owing to an error on the part of the Reader appear under the heading of *Germany*, should appear under *Italy*.

THE
OFFICE OF THE
SECRETARY OF THE
NAVY
WASHINGTON, D. C.

OFFICE OF THE SECRETARY OF THE NAVY

NAVY DEPARTMENT, WASHINGTON, D. C.
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THE JOURNAL
OF THE
ROYAL UNITED SERVICE INSTITUTION.

VOL. LIV.

JANUARY, 1910.

No. 883.

[Authors alone are responsible for the contents of their respective Papers.]

SECRETARY'S NOTES.

I. COUNCIL.

The Council regret to have to record the death of Major-General Sir G. H. Marshall, K.C.B. He joined the Council in 1902, and was the Chairman, 1907-8.

The Council have elected Colonel F. D. V. Wing, C.B., Staff Officer, R.H.A. and R.F.A. Headquarter Staff, Aldershot, to fill the vacancy (By-Laws, Chap. IV., 9).

The following members of the Council retire at the Anniversary Meeting on 1st March, 1910, having completed three years' service:—

Admiral-of-the-Fleet The Lord Walter Kerr, G.C.B.

Major-General Sir T. Fraser, K.C.B.

Colonel J. H. Bor, C.M.G., A.D.C., R.M.A.

Lieutenant G. R. Maltby, M.V.O., R.N. (retired).

II. OFFICERS JOINED.

The following officers joined the Institution during the month of December:—

Lieut.-Colonel D. E. Williams, R.F.A. (T.F.)

Lieutenant J. L. P. Hamer, 4th Bn. Shropshire Light Infantry.

Major L. R. Fisher-Rowe, Grenadier Guards.

Captain W. K. Rollo, Yorkshire Regiment.

Major H. S. Laverton, 3rd Hussars.

Captain B. J. Haslam, R.E.

Captain T. F. Parkinson, Kent Cyclist Battalion.

Colonel F. A. Fortescue, late K.R.R.C.

Captain W. H. Gribbon, Royal Lancaster Regiment.

Lieutenant S. D. Robertson, Indian Volunteers.

H.H. Prince Mohamed Ali Hassan, late Captain 10th Lancers (I.A.).

Captain H. M. C. Orr, Lincolnshire Regiment.

Lieutenant R. N. Ford, Royal Fusiliers.

Second-Lieutenant G. E. A. Granet, R.F.A.

SECRETARY'S NOTES.

Captain G. E. Leman, North Staffordshire Regiment.
 Lieutenant L. G. Garbett, R.N.R.
 Lieutenant D. L. Aman, R.M.A.
 Captain H. L. Firkins, Bradfield College, O.T.C.
 Captain G. P. Blake, Bradfield College, O.T.C.
 Captain T. B. Sills, Bradfield College, O.T.C.
 Major A. M. Perreau, R.F.A.
 Major A. B. Hubback, Malay States Rifles.
 Lieutenant R. F. Loder-Symonds, Cheshire Regiment.
 Captain M. F. Scott, 2nd Bn. London Regiment.
 Captain A. F. Thomson, R.F.A.
 Captain A. V. W. Hope, Indian Army.
 Lieutenant W. P. Gandell, R.N.
 Captain H. S. Cadman, Denstone College, O.T.C.
 Major P. Leveson-Gower, Notts and Derbyshire Regiment.

III. SUMMARY OF MEMBERS.

The Council have pleasure in reporting that during the past year 356 officers joined the Institution. There were 132 withdrawals and 109 deaths (of whom 58 were life members), making an increase of 115 on the year. The details of the officers joining were:—

Regular Army	-	-	-	-	-	222
Royal Navy	-	-	-	-	-	50
Territorial Force (including Yeomanry)	-	-	-	-	-	43
Special Reserve	-	-	-	-	-	13
Royal Marines	-	-	-	-	-	11
Indian and Colonial Volunteers	-	-	-	-	-	10
R.N.R. and R.N.V.R.	-	-	-	-	-	7
Total	-	-	-	-	-	356

It is hoped that members will not relax their energies in introducing new members.

IV. NAVAL ESSAY. 1910.

The subject of the Naval Gold Medal Essay, 1910, is:—

“How can the Colonies Best Help in the Naval Defence of the Empire?”

V. LIBRARY CLERK.

Mr. R. Dane (late Sergeant-Major, R.E.), having reached the age limit, has retired from the service of the Institution. He has been Library Clerk for the last 15 years, during which time he rendered excellent service to the Library and to the Institution. He is prepared to conduct researches for members in any of the London Libraries.

VI. LIBRARY.

The Council have decided to close the Library at 6 p.m.

VII. LENDING LIBRARY.

Members borrowing books are requested not to make marginal notes in them or to mark paragraphs.

VIII. LECTURES.

Members desiring to deliver lectures in the Theatre or contribute papers to the JOURNAL are requested to submit them for the perusal of the Council through the Secretary.

IX. ADDITIONS TO THE MUSEUM.

- (6043) Models of the Mainmast and Mainyard of H.M.S. *Asia*, flagship of Admiral Sir Edward Codrington at the Battle of Navarino (20th October, 1827), showing the damage done to the mast in the action. The models are made from the wood of the old mast.

Given by Major-General A. E. Codrington, C.V.O., C.B.

- (6045) Model of a Corvette of about 1860, the period when steam was first introduced into warships. The hull of the model is eight feet in length.—*Given by Captain T. Suckling, R.N.*

- (6046) (1) A Silver Figure illustrative of "Fame," presented to Vice-Admiral Sir Robert Le Mesurier McClure by officers of the Royal Navy "in admiration of his intrepidity and perseverance in penetrating through the Polar Ocean in search of Sir John Franklin, which led to the discovery of the North-West Passage, and has rendered his name distinguished in the naval annals of the British Empire." The expedition, consisting of H.M. discovery ships *Enterprise* and *Investigator*, sailed from Plymouth on 21st January, 1850, and four winters were passed by McClure's party in the ice.

(2) The Decorations and Medals of Vice-Admiral Sir Robert McClure, consisting of the
Insignia of a Companion of the Bath,
China Medal with Clasp, "Canton, 1857,"
Arctic Medal.

Bequeathed by Lady McClure.

- (6047) Model of a Flat-bottomed Boat for the disembarkation of troops, circa 1780, with troops and bluejackets on board to the number of 58.—*Purchased.*

- (6048) Two Gorgets and Shoulder Belt Plate worn by Lieut. Colonel John Drinkwater, Royal Manchester Volunteers (72nd Regiment) during the siege of Gibraltar (1779-83). Colonel Drinkwater entered the Army 1777 in the Royal Manchester Volunteers, raised at the expense of that town, and served in it throughout the siege and blockade of Gibraltar, until it was disbanded in 1783. On half-pay he wrote the work, "History of the Siege of Gibraltar," and in 1787 he joined

SECRETARY'S NOTES.

the 2nd Battalion of the 1st Royals, and proceeded to Toulon, became Military Secretary to the Governor, and afterwards Military Secretary in Corsica till the evacuation in 1796. From 1811 to 1835 he was Comptroller of Army Accounts. He died in 1844.

Given by Lieutenant G. H. Malden, R.M.L.I.

(6051) Shabracque used by General Sir C. J. Napier, G.C.B., at the Battle of Meanee (17th February, 1843), when he rode his Arab charger "Red Rover."—Given by The Misses Napier.

(6052) An Iron Ring recovered from the *Mary Rose*, which foundered on 20th July, 1545. It is believed to be a hoop of one of the guns.—Given by Lieut.-Colonel L. A. Gordon.

ENGLAND'S THREATENED RIGHTS AT SEA.

By H. F. WYATT, Esq.

On Wednesday, 9th June, 1909.

Vice-Admiral Sir CHARLES CAMPBELL, K.C.M.G., C.B.,
D.S.O., in the Chair.

FROM the end of the eleventh century, when the first code of maritime law was framed, up to the middle of the eighteenth, it was the admitted and unchallenged right of a belligerent to seize at sea the goods of an enemy, whether carried in enemies' ships or in those of a neutral Power. When, in 1801, the British Government had to maintain at the cannon's mouth this essential and fundamental privilege of maritime strength against the league of armed neutrality which the machinations of Napoleon had put in motion against us, they commissioned a British jurist of singular ability—Robert Ward—to state their case in a reasoned argument. Ward performed his task in a work entitled, "The Relative Rights and Duties of Belligerent and Neutral Powers in Maritime Affairs." Those conversant with this book will probably agree that no abler presentment of the subject has ever been known, and that the reasoning of the British advocate remains untraversed, because untraversable.

The rights to maintain which Nelson fought at Copenhagen, and Ward wrote his treatise, were abandoned by Lord Palmerston, in an inexplicable surrender, 53 years ago, and the destruction of our principal weapon of offence, then in the main accomplished, has been almost entirely completed by the acts of the International Naval Conference recently held in London. But though the representatives of England, obedient to the tenour of the instructions they had received, have agreed to those measures, they still require ratification by the Government before they become binding upon this nation. It is in the hope of showing cause why this ratification should not be given that this paper is written.

The object of war is coercion. The means of coercion is the infliction of injury. Of a maritime nation, and certainly of our own, the principal weapon is the fleet. Up to the date of the suspension of the right of capture of enemy's goods under the neutral flag, in 1854, at the beginning of the struggle with Russia, the predominance of the British Navy involved, in every contest, corresponding diminution of the sea-borne trade of our foe. In 1801, Russian nobles, oppressed by the losses occasioned to them by this exercise of our naval strength assassinated their Emperor Paul, in order to terminate the con-

flict which he seemed to wish to prolong. The pressure of the same power destroyed the credit and the prosperity of France, even at the period of Napoleon's greatest military successes, and was, as Mahan has exhaustively shown, the indirect but most certain cause of that rising of the nations in 1813 which led to his overthrow. The like exercise of the like weapon swept from the seas the commerce of the United States, during the strife which began in 1812, and left their exports, their corn, their cotton, and their tobacco to rot on the quays.

During all these wars, and during many others, of which limitation of space forbids mention, the mercantile marine of Britain, already relatively vast to that of other peoples, was exposed to the same methods of attack which she herself used. It was exposed to attack not only by the national ships of her adversaries, but also by their privateers. Yet the volume of her merchant tonnage grew in those days of storm. The war time of the British Navy was ever the harvest time of the British Mercantile Marine. The value of British exports increased from £12,600,000 in 1792, to £53,573,000 in 1814, and of our imports from £24,900,000 in the former year, to £33,755,000 in the latter. In like manner the number of merchant ships under our flag grew from 14,000 odd in 1792, aggregating 1,436,000 tons, to over 21,000, aggregating over 2,400,000 tons in 1814.

In face of these figures, and of the fact that the merchant marines of our adversaries almost perished off the face of the seas, it cannot be maintained that the system which was pursued was other than of enormous benefit to our trade. Nor can it be asserted that all the efforts of all the privateers employed against us prevented the rapid growth of our shipping. The reason is obvious. Not only had we a predominant Navy, but also a predominant merchant fleet, and this latter gave us a like predominance in privateers.

Hundreds of British vessels were annually captured by our enemies, but great numbers of these were recaptured before they could be brought into port.

The prize won by these methods was the carrying trade of the world, one half of which, speaking roughly, is still ours.

The great salient fact, therefore, which emerges is this: that our maritime commercial hegemony was gained for us by our forefathers in the wars of old by means the precise opposite of those which in the next naval war we propose to follow.

For the right of capturing enemy goods under the neutral flag was suspended, as already indicated, in 1854, and was abandoned in 1856. In some papers of the late Mr. Urquhart, which have passed through my hands, he relates that when, in the first of the two years named, the British Government announced its intention to suspend that right, a deputation of English merchants, whose trade with Russia benefited through that suspension, had yet the patriotism to wait upon Lord Clarendon, the Foreign Minister, and to entreat him not to

take the step which brought them this pecuniary gain. They pointed out that in that act of suspension the principal weapon by which England could coerce Russia was laid aside, and that if it were not laid aside, but used, a few months' exercise of it would suffice to bring Russia to her knees. The necessity of despatching an expeditionary force to the Crimean Peninsula, and the long agony endured by our troops in the trenches before Sevastopol, were the direct result of the refusal to adopt that advice. For in war, to attain your end, it is needful to wound your enemy somehow and somewhere.

And since, through the unparalleled folly of the British Cabinet, our naval strength was rendered useless for that purpose, the task passed from the sea, where we were strong, to the land, where we were weak, and the soldier starved and died because the sailor was forbidden by the rulers of England to do his natural work.

Not less but greater, than our disadvantage then, will be the disability imposed on this country in the next conflict with a world Power in which it is involved. Almost it would seem as if the very idea of taking means to impose our national will upon a rival state in war had vanished from the minds of our statesmen. We think of war now merely as a defensive act on our part. But any nation which absorbs and acts on this principle has already passed from the stage of growth, and is on its way to cease to be a competing factor in the world. For war is the culmination of secular processes of competition, the grapple of rival nationalities, seeking at the expense of each other for the opportunity of expansion and of material gain. For this cause we fought Spain in the 16th century, and Holland in the 17th, and France in the 18th. And for this cause, and no other, Germany desires to fight us in the century in which we now live.

But how do we expect to enforce our national will, how do we hope to win victory in war, unless we retain the means to injure our opponents? And now that we have abandoned—it is to be hoped temporarily only—the right of capturing enemy goods in neutral ships, the power of injuring seriously any great State with which we may come into conflict is practically gone.

Until Russia suffered eclipse in her war with Japan, our rival interests in Asia placed us in a position of competition which might have well led to war. Nor do we now know that that position may not recur. But if war came, how could we injure Russia? Under the neutral flag, her sea-borne exports and imports would be as great as ever. We should have to make immense military efforts, at the cost of a vast expenditure, for the mere purpose of parrying any attack which she might make, either upon Afghanistan, which we are pledged to defend, or upon our Indian frontier. In the event of such threat, trouble within India itself would be practically certain, and to meet that trouble immense expense would probably be required.

But what corresponding damage could we inflict? We should be in the plight of a boxer allowed to parry, but not to hit. Would a man so fettered be likely to triumph? If war had resulted from the Doggerbank outrage in 1904, we could have dealt one stroke in the destruction of the Russian fleet, but after that stroke our means of offence would have been exhausted. We should have stood to lose, but not to win.

Similarly, if Germany attack us and fail to effect our subjugation, what injury can we do her at all corresponding to the enormous injury which she will, even in the most favourable event, inevitably do to us? One result of the second Peace Conference at the Hague, and also of the recent London Conference, has been the revival of privateering under another name. The effect of German privateers and German cruisers upon freightage and rates of insurance will, beyond all doubt, suspend our carrying trade, and force our exports and imports under neutral flags. This is a result which is probably anticipated by almost every student of naval war. Doubtless our cruisers and our privateers may have similar effect upon the sea-borne commerce of Germany. But as the volume of our merchant tonnage still enormously exceeds that of the tonnage of Germany, it is evident that our loss would be incomparably the heavier. Moreover, as I shall show presently, under the extraordinary provisions of this London agreement, food stuffs and many descriptions of cargo proceeding to Dutch or other neutral ports, on their way to Germany in neutral ships, are to be immune from capture by us, while similar cargoes coming to our shore are to be subject to capture by them.

A very terrible degree of suffering has thus been definitely secured for our population, in the event of an Anglo-German war. Again, therefore, I ask what corresponding damage can we hope to inflict in return? The tide of German over-sea exports and imports will continue unchecked, in neutral bottoms. German Colonies are too poor, and too unimportant to make their capture by us, if we took them, any vital loss to the German Empire. The German coast line, small in extent, is far too powerfully protected by forts, and by their immensely powerful torpedo flotilla, to permit us to attack it with any chance of success.

Hence it follows that in a struggle with Germany, which may be forced upon us at any moment, we have everything to lose and nothing to gain. Defeat would mean subjugation, and victory in actual naval battle could not avert the passing of our carrying trade to the neutral flag, if Germany used, as she assuredly would use, her so-called auxiliary cruisers in different parts of the world, for the purpose of preying upon our trade. In the entire absence of any agreement upon this vital point, there is nothing to prevent any merchant ship from converting herself, while at sea, into a commerce destroyer, and then, when she wished to coal, or refit, reconverting herself into a merchant ship, so as to enjoy the full benefit of entering neutral ports.

How profoundly different would have been—and would be still—the position of Great Britain in the world if she had not surrendered, in a moment of madness, the principal weapon which she possessed. War with Russia would have meant suffering for Russia, decrease of revenue, and loss of credit. Without firing a shot, the mere knowledge by Russian statesmen of what they stood to lose if they assailed us would have given protection to the millions of Hindustan.

Equally would it have given us a guarantee against German hostility.

Had we not surrendered this sword of our forefathers, we need never have feared onslaught from Germany, so long as we preserved intact that naval supremacy which is the condition of its use. For if only the right of capture of an enemy's goods in neutral ships were still ours, and our Navy still master of the seas, the outbreak of war between Germany and England would have brought swift paralysis to the whole vast sea-borne commerce of the German Empire. Her over-seas exports and imports would have ceased, and with that cessation would have ceased also a large part of her manufacturing life. Millions of her population would have been plunged in want, and a strain imposed which could not long have been borne. For, under modern conditions, the effect of the arrest of transit by sea would certainly tend to be far swifter than in the days of Nelson. Cut off the access to over-sea customers—restrain the import of over-sea produce—and you would establish conditions of suffering in most European countries at once keener and more quickly felt than of old, in proportion to the greater part which manufacturing industries now play in the life of Europe.

In presence of the calamity of such results to herself of war with Britain, Germany, or Germany and Austria together, could not have dared to oppose their national will to ours. Moreover, in a war with Germany, we should have stood to gain by the elimination of her mercantile marine as a competing factor with our own.

These considerations, powerful as they may be, are but a portion of those that might be alleged, and yet it absolutely follows from them that the entire status of this country, and of the empire of which it is the heart, has been revolutionised by the surrender of our natural rights as a belligerent made in the Declaration of Paris in 1856. Then, in a moment, as it were, in the twinkling of an eye, we were stripped of that mighty instrument of offence by which in the foregoing generations and centuries we had hewn our way forward in the world. And this prodigious deprivation was accomplished, as the facts conclusively demonstrate, at the instigation of our own Government, or at least of one strong governing Minister in it—Lord Palmerston—without known consultation, and without submission to, or authority from the Houses of Parliament. Of all the monstrous abuses of the power of the Crown ever practised by King or Minister, this was incomparably the greatest.

What was the abuse practised by Charles I. in levying ship money without Parliamentary consent, by the side of this gigantic outrage? "*Since the Declaration of Paris,*" said the late Lord Salisbury, in 1871, "*the fleet, valuable as it is for preventing an invasion of these shores, is almost valueless for any other purpose.*" This was the considered opinion of a man who four times filled the office of Prime Minister of the United Kingdom. It may fitly end this part of my paper.

Before, however, proceeding to comment on the latest chapter in the history of British repudiation of British rights at sea, it seems worth while to examine the matter from the point of view of humanitarianism and of international justice. It is a peculiar feature of much current political thought that, when analysed, it turns out not to be thought at all. That is to say, the result following from the course of action recommended is frequently found to be an exact opposite of that which it was desired to produce. Thus, to give a single instance, the prohibition of the use of expansive bullets during the war in South Africa had the undoubted effect of prolonging the struggle and increasing the sum of human suffering.

In like manner, the abolition of the right of capturing enemy goods when under neutral flags is to confer sanctity upon property, but not on life. You may kill your enemy, but you may not take his chattels. To conceive any doctrine more monstrous or more immoral would be difficult, yet this is the doctrine with which, in this country, we are now face to face. Its tendency must naturally be to prolong war by sustaining resources without which war cannot remain. Let the man fighting for his nation die, but let the mass of individuals constituting that nation continue to supply even the enemies against whom on their behalf he is contending. This is the modern English notion of humanitarianism.

From the point of view of international justice, the case is worse still. For a neutral nation is one unconcerned with the war from which it stands aloof. Why, therefore, should it be allowed to interfere to help the weaker of two maritime belligerents? But it does so interfere, to the enormous advantage of the latter; when it shelters his trade under its flag; when by that protection it confers upon his exports and his imports free egress and free ingress; when it thus saves him from the natural consequences of his own naval inferiority; and when, by this vital succour, it enables him to prolong and perhaps to emerge victoriously from a war in which he must otherwise have suffered defeat. The question is not one of interference with the ordinary trade of a neutral Power. It is the question of the right of a neutral to extend that ordinary trade by acting as the carrier for a belligerent. What, by hypothesis, that belligerent cannot do for himself, the neutral does for him. Is not the word "neutrality," under such circumstances, a contradiction in terms?

I pass now from the consideration of the rights of sea power, surrendered in 1856, to that of the continued application of the principle of surrender in the Hague Conference of 1907, and in the London International Naval Conference of 1908-9.

If any here admit the force of the previous reasoning, it will be seen that the free exercise of the right of capture was essential to the very life of Britain. That freedom having been abandoned at the earlier date, the next step in fettering the exercise of our naval power was taken in 1907. The formation was then proposed of an International prize court, by which the legality of all captures by belligerents of enemy ships might be decided on appeal. By this measure the last shadow of freedom was removed from the British Navy. Formerly it could pursue the goods of an enemy under any flag which flew on the waters of the world. Then its pursuit was restricted to those goods when carried under the enemy's own flag. Now the exercise even of that last right is made subject to the consent of a board, composed mainly of foreign jurists, at the Hague. Conceive, if you can, what would have been the contempt of British Ministers a hundred years ago, if such a proposal as this had been put before them. But they were men.

Following, then, on this proposal, the London Conference was called for the purpose of framing a code of rules for the guidance of the suggested International Court.

It is not the purpose of this paper, nor would its limits permit an attempt to go through seriatim the various points raised at the Conference, and the various decisions reached.

I propose to draw attention only to one decision, and to one omission. The decision is that food stuffs should be included in the lists of conditional contraband. Such contraband is to be liable for capture if shown to be destined for the use of the armed forces, or of a Government department, of an enemy State, and it will doubtless be under this head that the only possible defence of this inclusion will be attempted. But there is only one point that is actually pertinent, and that is the probable effect of this inclusion in war. Who is to be the immediate judge whether a cargo of conditional contraband is truly destined for the use of an enemy Government or not? Obviously the captain of the enemy cruiser or privateer. That officer will, equally obviously, have the most pressing inducement to determine that the circumstances are suspicious, and that they justify him in taking the vessel into port. What happens to the cargo after that is nothing to the point. The point—the only point—is the effect of that ship's detention on prices in England. I submit, and I assert, that effect would be precisely the same as if the ship were confiscated outright. Even one such detention would send prices up as by some magic impulse; several would suffice to produce a famine. By actually consenting to this inclusion of food amongst articles of contra-

band, our representatives at the London Conference have put a weapon in the hands of our rivals which cannot fail.

If this truly amazing and truly astounding provision be ratified by the Government, THEY WILL HAVE PUT THE COFFIN LID ON ENGLAND AND NAILED IT DOWN.

But food stuffs are not the only goods included in the list of articles of conditional contraband. That list is long. Forage, clothing, bullion, vehicles, vessels, railway material, balloons, and flying machines, fuel, powder, and explosives, horse-shoes, harness, nautical instruments—these all come under that category. And they all have this peculiarity attaching to their transit, that if they are on the way to any British port, they are liable to capture by an enemy's ships, while, if they are on their way to Germany, *via* any neutral port, they are immune from capture by our ships. The British representatives in their report to Sir Edward Grey, which is full of gratification at their great achievements, say something to the effect that in the case of a Continental country, there is not much use in prohibiting access by sea. That was not the experience of England in the wars between 1793 and 1815.

But in any case, it is clear that articles of conditional contraband in transit on the seas must be presumed to be wanted by the country to which they are being sent. Therefore, that country would rather not have them arrested on their passage. Therefore it is our business to arrest them. The argument that because our enemy might be able to get some supplies by land, therefore we need not bother ourselves to prevent him from getting other supplies by sea, is truly a remarkable one. Yet this is the argument of the representatives of England at the London International Naval Conference.

It results that if Germany, for instance, decides to make war on us (in existing conditions it is certain that we shall never decide to make war on her), she will have our full and free permission to receive from over-sea both food stuffs and all the other articles named under the head of conditional contraband. The only condition attached to this truly generous grant is that they shall be consigned in the first instance to any port outside the German Empire. The ports of Holland and Belgium would be decidedly useful, one would imagine, in this connection, provided this not difficult condition be fulfilled. British ships of war, and British privateers (assuming that we are not too virtuous to imitate our adversaries by having privateers), may indeed examine a neutral ship having on board food, bullion, forage, clothing, the component parts of docks, railway material, balloons and flying machines, powder and explosives not (yet) "specially prepared for use in war," etc., but, having examined her, they must then let her proceed. We only miss the special form of blessing with which we might reasonably have expected our cruisers to have been provided for bestowal on the skippers of the neutral craft. "Go on, my children," the document might run, "proceed without fear on your beneficent mission. No British vessel

will dare to interfere with you; for the sole desire of the British Government is to avoid interference with neutral shipping."

We might, with proper pride, contrast this pious attitude with the rude and unchristian action of the rival belligerent, when he seizes, as, under the London Declaration, he will be at liberty to seize, the same neutral ships while they are engaged in carrying similar cargoes to our own shores. To what a height of moral superiority have we attained, and to what a depth of superhuman imbecility have we descended!

I pass from this decision of the London Conference in regard to conditional contraband to the absence of any decision in regard to the suppression of privateering. Under the heading, "The Conversion of Merchant Vessels into Men-of-War on the High Seas," the British delegates report that "all our efforts in bringing about an understanding were unsuccessful. We did not fail to put forward the arguments which, in the view of His Majesty's Government, militate against the recognition of an unrestricted right of conversion on the high seas, and we endeavoured in vain to obtain, in return for a recognition of such right subject to a proper limitation, some guarantee against the abuses to which it appears to be obviously liable. We were met with a refusal to make any concessions or to abate one jot from the claim to an absolutely unfettered exercise, which its advocates vindicate as a rule forming part of the existing law of nations. In these circumstances we felt that we had no option but to decline to admit the right, and the result is that the question remains an open one."

I would venture to point out to the British delegates that this last statement of theirs is an error. The question is not open, but closed. For the absence of decision is a decision. We have now the explicit knowledge that foreign nations claim, and intend to exercise in war, the right of converting their merchantmen into belligerent ships, on the high seas, without any notice whatever. The British delegates write as though surprised at the refusal of foreign Powers to abandon or to restrict this claim. But why should they be surprised? The foreign delegates, or at least those of them whose views have prevailed, obviously came to the Conference with the fixed intention of securing as much advantage in war for their own countries as they possibly could. That intention they have carried out. To insure in war the destruction of this country by the starvation of its population, two conditions were necessary. One was unrestricted permission to seize food stuffs, whether in British ships, or whether in neutral ships. This condition they have secured by making food contraband. The other necessity was to provide the means of using that permission effectively. This necessity they had fulfilled, this second condition they have provided, by maintaining their right to convert their own merchant ships at will into ships of war for the purpose of capturing or even destroying, if it so suits them (for that permission is also given by the London Declaration), both British

merchantmen and also neutral merchantmen carrying contraband.

It is the known fact that most, if not nearly all, German liners carry guns on board. These liners are now found in every sea. (In the Far East, they would, indeed, now actually predominate but for the vessels of two British firms.) The instant that the news of war with England flashes over the world, every liner, as the intelligence reaches it, will be converted within a few hours into a hostile cruiser.

They were merchantmen yesterday. They are fighting ships to-day. And fighting ships they will remain until they wish to coal, to take in stores, or to refit, in a neutral port. Then they will become merchantmen again. The guns will vanish from external vision. The peaceful mission will be resumed, and will be maintained—until they are ready to start once more on their errand of war.

That this right of conversion on the high seas renders the disappearance of the British mercantile marine, on the outbreak of war with Germany, a matter of absolute and inevitable certainty will hardly be denied by any thinking man. Effective protection by such British cruisers as we have left in distant seas will be out of the question, in face of enemies so multiplied. The rise in freights and in insurance, consequent on captures, must transfer our carrying trade at once to the neutral flag. But, when so transferred, all that part of it comprehended under the title of contraband, whether absolute, whether conditional, will still be subject to seizure. Neutral ships with food stuffs, or any other description of contraband, whether coming from any part of the British Empire, or from the United States, or from Russia, or from the Argentine, will be liable to be captured, or to be sunk, by any armed German merchantman in their vicinity.

Let it be remembered in this connection that probably all the officers and the men of such converted German liners will have received full and regular training in the German Navy. It must be manifest that under these conditions the outbreak of war with Germany must be synonymous with the creation of famine prices in England. Such war will mean starvation here.

I now draw attention to the fact that this right of conversion, claimed by Germany and by other nations, constitutes to the fullest possible extent a revival of that right to license privateers which was foregone by the signatories to the Treaty of Paris in 1856, with the exceptions of the United States and Spain. The privateer was an armed vessel, regularly licensed by the State whose flag it flew, to levy war on the national enemy. The idea that a privateer was a pirate is, of course (as all students of naval war are aware), a pure figment arising from a profound ignorance. The privateer could not benefit to the extent of a penny from any capture which it had made until the legality of that capture had been affirmed by its national courts at home.

The privateer was privately owned; the man-of-war was State-owned. That was the only essential difference between them. The State benefited in that it obtained the services of the privateer against the enemy without cost to itself. Now, compare the new privateer, that is to say, the German armed liner, converted suddenly into a so-called man-of-war, with the old privateer. What essential or substantial distinction exists between the two? The German liner is a privately owned ship, of which the cost has been mainly, though, perhaps, not entirely, borne by private individuals. It voyages armed. When war comes it acts at once as a belligerent. The privateer of old sailed from its home port, during war, with a license to take active part in that war on board. That license was only issued after the war had begun, for letters of marque were not issued during peace. The German liner of to-day is better off. She is, we must be certain, from the nature of the case, provided always with that license during peace. This is an inference which follows certainly from the refusal of the British proposal at the London Conference to limit "the right of conversion on the high seas to the use of vessels which had previously been specifically and publicly designated by the respective Governments as suitable for the purpose and borne on their Navy lists." The rejection of this proposal proves the intention to use all armed vessels for warlike purposes, without notice, at any moment, and if they are to be thus available, it follows that they must habitually proceed on their voyages with their commission to levy war, on board. Whether, when the moment of conflict comes, they then choose to style themselves national ships, or privateers, or something else, makes no difference to their effective use.

But when Lord Clarendon, at the Congress in Paris in 1856, gave the fatal and terrible assent to the abolition of British sea power, he did make one condition. He said that England was disposed to renounce definitely principles which up to then she had invariably maintained, provided that privateering were equally abolished for ever. Mr. Gibson Bowles, in referring to these words of Lord Clarendon, in his extremely able work on the Declaration of Paris, proceeds to argue that inasmuch as the United States and Spain refused assent to this suggestion, privateering was not abolished, and England was consequently released from all pledge.

How much more, then, are we released from it now, when, as the sequel to the Declaration of London, privateering is to be revived in a form more dangerous, because more insidious, than was ever known before. Our mercantile marine throughout the world, and, more than that, our food stuffs carried in neutral ships, are to be exposed to the deadly attack of privateers with dormant commissions, privateers which, up to the moment of belligerent action, have been masquerading as peaceful vessels of commerce.

As, then, the condition has been abrogated, on which alone we gave up the right of capture of enemy's goods under the neutral flag, our business now is to reassume that right. This is, in fact, a duty imposed on us by the necessity of self-preservation. For only by reassuming it can we avert the fate foretold by the Select Committee of the House of Commons on Merchant Shipping, which reported in 1860. Their words were:—"In fact, should the Declaration of Paris remain in force during a period of hostilities, the whole of our carrying trade would be inevitably transferred to American and other neutral bottoms."

Those words were written at a moment when privateering was supposed to have been abolished. With how much more force can they be spoken now!

Moreover, the reassertion of our maritime rights constitute absolutely the only effective reply to this revived peril. So long, but so long only, as we exercise those rights, privateering will be to our advantage and not to our detriment in war. This was the case, as already shown, a century ago, and it should be the case again, provided, of course, that we equip and prepare British liners to play their part as privateers. For privateering will irresistibly drive the carrying trade from British to neutral shipping, only if the flag of that shipping protects it. If it cannot protect it, then it will remain with us. And in that case the predominating maritime Power will still succeed, as of old, in securing, in spite of war, and in spite of privateers, the growth of her merchant shipping.

But unless these facts are faced—facts which are at once terrible and incontestable—our doom as a people is already sealed.

It remains to mention one supposed resource of British ship-owners, of which the Declaration of London now deprives them. This supposed resource was the power to transfer British shipping to a neutral flag at the commencement of hostilities. Such as it was, this mode of escape is now removed. Under Article 55, the transfer, to be valid, must have been made more than thirty days before war. But under modern conditions, future war will come like a thief in the night. As German writers have pointed out, the advantage of surprise is too great to be relinquished. Therefore it follows that the last poor hope of the pusillanimous is gone.

It may well be asked whether in all human history a great nation, not actually stricken with the stroke of war, has ever found itself in a position of such great peril as that in which Great Britain is placed to-day. And the amazing thing is that this peril is of our own seeking. The Declaration of Paris was the voluntary act of the then British Government, and the Declaration of London is its historic complement.

It is clear from a perusal of the correspondence and documents that the British delegates and the dominant foreign delegates went with contrasted intent. The great object of the

former, as is clearly expressed in the published instructions which they received from Sir Edward Grey, was to diminish interference with neutral shipping. The great object of the latter, as is evident from the results, was (as already said) to secure advantage for their countries in war, and such advantage they did secure.

What we have now to ask is whether it is really conceivable that this convention can be ratified. Such ratification on the part of England would be nothing less than a great act of national suicide. I would suggest that the shipowners and shipbuilders of this country, whom the effect of this Declaration threatens with ruin, and the millions of our labouring population, whom its effect threatens with starvation, might well make common cause, and make an urgent appeal to the Government and Parliament to refuse consent to its ratification.

To strive with the entire energy of man, first to frustrate the ratification of this instrument of British destruction, and next to procure the reassertion by Great Britain of her age-long right to capture enemy goods under the neutral flag, is now the binding duty of every intelligent man left in this land.

We stand in the shadow of vast catastrophe. God helps those who help themselves.

Commander the Right Hon. Lord ELLENBOROUGH, R.N. :—I am sure we are all very much obliged to the lecturer for bringing a matter before us that has scarcely received the attention it deserves. The country was, a short time ago, so disturbed at the question of whether the votes for naval construction were sufficient or not, that it had no time to attend to anything else. It is now so deeply thinking over the Budget that I really do not know when it will be able to find time to think of any third question, especially of such an important question as this. However, as legislation, or the attempt at legislation, is to be postponed until next year, I think there will be full opportunities for the mercantile community of this country to study this Conference question, as published in this Blue Book, and to see how it will affect their particular interests. I regret the Declaration of Paris. I think it was a mistake altogether. I think that perhaps we were wise, under the circumstances, in not exercising our rights to the full during the Russian war. In one point I disagree with the lecturer, and that is, that if we had interfered to the full extent that we might have done, with neutral flags, it would have rendered the expedition to the Crimea unnecessary. The fact is that we blockaded the Russian ports very closely indeed. But a great deal of commerce was disembarked in Prussian ports and went to Russia overland, and therefore a good deal of the trade went on all the same. To have done otherwise would have probably involved us in a war with other countries, such as Austria or Prussia, and therefore on that occasion we did not do it. In the Napoleonic Wars we were at war with Russia from the moment she submitted to Napoleon. We blockaded all her coasts, and produce could only reach her, under license from England, a license that had to be heavily paid for. The Conference on International Law did not deal with the strategical aspects of the questions before them. Under present conditions this country, in time of war, must have absolute control of the North Sea, or die. Its independence would not be worth a week's purchase without it. We should be reduced to the position we were in when

incompetent Saxon kings paid Danegelt, paid the enemy to go away, instead of paying taxes and submitting to personal service to keep him out. To hold the North Sea, it is absolutely necessary to interfere with neutral shipping and fishing vessels. Commerce on the North Sea, whether under our flag or under that of other nations, must comply with the restrictions laid down from time to time by our admirals under penalty of forfeiture. I am not saying that other countries' commerce must be stopped, but they must at least comply with the restrictions that we may lay down from time to time for our own trade. It will be impossible for us to allow neutral ships to act as scouts, or even to allow them to proceed innocently to a neutral port, and then tell the enemy where they last saw our vessels. Our cruisers cannot keep on boarding such vessels again and again, so as to be quite certain that they are not enemy's ships laying down mines. I would remind International lawyers of the inland type that the weather in the North Sea does not always permit of a boat being lowered for the purpose of going on board another vessel. I shall not, in the short time at my disposal, attempt to sketch out what such rules should be. They are problems for the consideration of Sir Edward Grey and Sir William May. Like most problems of International Law, they will have to be settled in the first instance by the officers on the spot; but they deserve careful consideration during times of peace. Now, Articles 48 and 49 are some of the most extraordinary articles I ever read anywhere. Article 48 says that a neutral vessel that has been captured must not be destroyed but taken into port. Article 49 says that if the success of the operations in which the captor is engaged at the time is interfered with, he may destroy this neutral vessel. Now, this is called a "Conference for the purposes of establishing an International Prize Court"—I think it is a Conference for the purpose of abolishing Prize Courts, and, constituting a lieutenant in command of a torpedo boat, a Court of First Instance, with the power of destroying any neutral vessel he comes across. It legalises the destruction of the *Knight Commander*, the ship that was destroyed in China by the Russians, for which neither indemnity nor apology has been offered. There is, however, an appeal to a very nebulous Prize Court which, unlike ordinary Courts, will have no power whatever to enforce its decisions. Suppose a country became bankrupt at the end of a war, how is it to be made to pay up? Or, in the case of a country completely conquered, are you going to make the conqueror pay up? Or, take the case of a country winning, and who expects to be able to put a clause in the Treaty of Peace, making the loser liable to all claims? These things cut both ways. Article 49 might be useful to us when it came to North Sea questions; but I should like to say one word of caution to officers in command of our smaller vessels: they could do this country no worse service than to embroil it with a powerful neutral, for the sake of getting a small temporary advantage; and even if volumes of International Law were on their side, they should think twice and see what the ultimate effect of their action would be. For instance, I would think it right to pursue an enemy's fleet into neutral waters for the purpose of destroying it; but it would be utter folly to pursue a single ship, and thus embroil us with that neutral country. If we destroyed the enemy's fleet we could speak civilly to the neutral country, and our excuses would probably be accepted. I am very glad that legislation for the purpose of giving effect to the International Conference is to be postponed until next year. We surrender too much. As the lecturer carefully pointed out, any captain of a foreign ship can carry with him a commission constituting him a captain in the Volunteer Navy of his country, in time of war. Any old brass gun built in the

times of Louis XIV. is sufficient to stop a merchant ship by making holes in her until she surrenders. A vessel of that class cannot meet a cruiser or a torpedo boat, but she can sink an unarmed merchant ship or force her to surrender. On entering a neutral harbour she can put the gun back into her hold, fill up with provisions, go out of harbour again, and once more become a man-of-war the moment she is outside the three mile limit. That is a privilege never allowed to a real man-of-war, and I do not see why foreign mail steamers should have these privileges, and why, the moment war is declared, there should be hundreds of what are equivalent to privateers, on every sea on the globe. The first business of an enemy is to embroil his opponent with a powerful neutral, and to subsidise the neutral Press to write screaming articles if one of its ships is delayed or examined. Next to a defeat at sea, the greatest misfortune which could befall this country would be to incur the enmity of a powerful neutral, while engaged in a life and death struggle with another Power. Therefore, whatever International Law lays down, our officers and our Foreign Office should be very careful to exercise common-sense, and to deal with the facts and circumstances of each case as it arises—a thing impossible to do by a code of law. Dr. Leyd's emissaries deceived our Admiralty, and the result was we searched the wrong German ships and allowed those with contraband to pass unmolested. At the same time, he subsidised a reptile Continental Press, which kept on publishing terminological inexactitudes about our doings in South Africa during the whole of the war. If we have a war with a powerful Continental country we shall have a great deal more of that to deal with because they will be able to subsidise every press in every foreign country. The next war will not be one with weapons alone, but one of finesse and journalism. Articles 33, 34 and 35 are, to my mind, quite inadmissible, and I would sooner the Treaty came to nothing, than that they should form part of it. They make food conditional contraband of war, if intended to be sent to England, but they do not make it so if on its way to any Continental country. If it is sent direct to a Continental country at war with us, it may be considered contraband, but if it is intended to be landed in some neutral harbour close to that country, then that country can provision itself across the Atlantic, which we cannot. It is a deprivation of our power to provision ourselves across the Atlantic, and attempts will be made to carry it out by all the enemy's merchant ships with one gun on board. Our Government, however, has intimated that it is desirous of having a protocol attached to these Articles, giving them a different meaning. But whether they will get it or not I do not know. Perhaps that is one of the reasons why consideration of it is postponed this year. The best part of the Treaty, I think, is Article 28, namely, the list of Articles that cannot be made contraband of war. It is some comfort to know that there are some such things. I tried hard to make out a list myself once, but I find that this list is much longer, and I look upon it as a useful addition to the Treaty. I have just one word to say about the English International Lawyers, like Professor Westlake and Hammond, and others. I am very glad that some Englishmen have taken up the study of International Law. Even if they are not able to make the law, or lay down the law, they will be of the greatest help to our naval officers in times of war by acting as barristers for them, and holding briefs for them, when they have stopped a ship or ships for certain reasons, and it has to be proved that they were quite right because of certain other reasons. That can only be done in International Law by referring to precedents which bear on the particular case, which the naval officer has not time to do. He is much better employed in commanding his ship, and in looking out for the

enemy, than when he is on shore, arguing his own case. I am much obliged to you for listening to me so long and patiently.

Commander W. F. CABORNE, C.B., R.N.R. :—I am sure we have had a very interesting lecture, and we must all be in agreement with the patriotic spirit that has pervaded it. Having often in this theatre expressed an opinion as to the value, or shall I say the worthlessness, of International agreements when nations are struggling in war—which means coercion and the ultimate triumph of force—for their very existence, I will not now obtrude personal views, but will content myself by quoting a portion of a leading article which appeared in the *Times* of 5th September, 1890, commenting on the scheme of National Insurance then being advocated by the late Vice-Admiral Sir George Tryon. The *Times* said :—"It is difficult to listen with ordinary patience to the talk that goes on about the Declaration of Paris and neutral bottoms. On one side that precious instrument is treated as the ruin of our sea power, and on the other it is regarded as the main protection of our commerce. It has no such virtue one way or the other. It abolishes privateering, yet in case of war, every British ship that can mount a gun will show her teeth to the enemy. It protects neutral bottoms and makes the flag cover the goods; but it provides no flag and no bottoms that could supply our wants if our own were driven off the sea. Every cowardly dream of seeking salvation in neutral bottoms would be exploded within a month of the outbreak of hostilities. In what incredible mental fog do the people dwell who seriously imagine that an enemy, bent on destroying us through our commerce, and otherwise strong enough to do it, would allow himself to be fooled and foiled by sham transfers of British ships to neutrals? Were there nothing else, the reservations about contraband alone would land us in ruin. There are people who anxiously discuss what is contraband. We have not the least idea what may be contraband upon paper; but we can tell them very positively what would be contraband in fact, if we lost command of the sea. It would be anything and everything that our victorious enemy found to be of importance to us for the prolongation of the struggle. 'Vae victis!' said the Gaul, when there was question of the fairness of his weights, and threw his broadsword into the scale. Contraband will be measured in the same fashion, if ever it becomes of serious importance to this country to have it defined." I strongly commend that extract to your grave consideration. With regard to certain fast German merchant steamships being ready for conversion into armed cruisers and always carrying their armament on board in time of peace, it might be well if we were to imitate them, where possible, always remembering that guns without the requisite instruction in their use, and without a sufficient number of British-born seamen to work them, would be worthless. As Lord Ellenborough has pointed out, armed merchant steamers are of little or no value when opposed to naval cruisers, but against similar vessels they could do good service. However, there is one way out of all the difficulties we have been discussing this afternoon, and one way only, and that is to maintain the British Navy at such a strength, and in such a high state of efficiency, that no foreign Power, nor combination of foreign Powers, will ever venture to attack us.

Note.—Until about four years ago, in consideration of an annual subvention, the Admiralty held at its disposal, in case of need, a number of steamships belonging to various mail companies, but the only two now on the list are the turbine steamers *Lusitania* and *Mauretania*, owned by the Cunard Company, which company also holds all its other vessels at the disposal of H.M. Government for hire or purchase.—W.F.C.

J. WESTLAKE, K.C., LL.D., Professor of International Law, University of Cambridge, etc. :—I congratulate Mr. Wyatt on the thoroughly patriotic spirit of his paper—a spirit which I have no doubt is shared by every lady and gentleman here to-day. I congratulate him also on the scorn he has poured on the notion of a purely defensive war. I trust that the wars of this country will always be defensive in this sense, that we shall not undertake them unless we think our defence demands it; but once they are undertaken it is only by the strongest and the most offensive strokes that victory can be obtained in them. In order to exhaust my agreement with Mr. Wyatt at once, I will come to one isolated point on which I agree with him as to the methods of offence. I am of opinion that our right to capture enemy's private property at sea as such must be maintained, and I am of opinion also that the rules for an International Prize Court, which were elaborated at the Hague Convention in 1907, and have been confirmed by the Declaration of London, do not satisfactorily perform that end. They give us no security that an International Prize Court may not declare enemy's property at sea to be not capturable as such. That is a point that will have to be threshed out when the Declaration of London and the legislation consequent upon it come before Parliament. But as to the other points in the Declaration of London which Mr. Wyatt has attacked, I appear here to-day as the defender of that Declaration, and I will take the points in the order in which Mr. Wyatt took them. First, he strongly objects to the decision that food supplies should be included in the list of conditional contraband, liable for capture if shown to be destined for the use of the armed forces or a Government department of an enemy's State, but not if intended for the sustenance of the general population. It may, perhaps, surprise Mr. Wyatt to know that this is Lord Stowell's rule; it is the rule of the British Admiralty, and that rule has been embodied in the Declaration of London, not as a concession to ourselves but as a gain. What has been the position of foreign Powers with regard to food supplies being contraband? I daresay all interested in the question remember that in 1885, when there was a little war between France and China, France pronounced to be contraband all supplies of rice going to China, whether intended for naval or military equipment, or for the general food of the population. When the Hamburg merchants complained of that to Bismarck and asked his intervention, Bismarck said it was at the pleasure of the belligerent to declare all articles contraband that he liked. So that but for this article of the Declaration of London which Mr. Wyatt objects to, we should be in the position, if we were at war, of seeing the supplies of food to this country declared unconditionally contraband by an enemy, whether France or Germany. We have gained by the fact that the supply of food stuffs can be only treated as contraband conditionally, when intended for naval or military equipment, and not for the food of the population.

MR. GIBSON BOWLES :—Do you say as a jurist that a belligerent can declare to be contraband what he pleases?

PROFESSOR WESTLAKE :—That was Bismarck's answer.

MR. GIBSON BOWLES :—Do you adopt it?

PROFESSOR WESTLAKE :—I certainly would not adopt that view, but the question is not what view I or any other International Lawyer adopts; it is the view which will be adopted by a foreign Government. Then it was also objected to the Declaration of London that it did not denounce the conversion of merchant ships into cruisers at sea. I regret that. I think

it ought to have been denounced, but we could not get other nations to accede to our view. But what is the result? The result is that we are at liberty to maintain our view. The Declaration of London contains nothing on the subject, and if we continue to maintain, as I hope we shall, that a merchant vessel cannot be converted into a cruiser on the high seas, we shall have the same right to do so as if the Declaration of London had never taken place. We have gained also the Continental adherence to our view of the doctrine of continuous voyage in contraband. We have gained their adhesion to the view that a cargo of the nature of contraband intended for an enemy destination shall not escape condemnation because it passes through a neutral port.

Mr. WYATT:—Absolute contraband.¹

Professor WESTLAKE:—It is said again there was one power reserved to British shipowners of which the Declaration of London now deprives them; this was the power to transfer British shipping to a neutral flag at the commencement of hostilities. Such as it was this mode of escape is now removed under Articles 55 and 56. But the right to transfer during the war was never allowed by France. The old settled doctrine of France was that the transfer of shipping after the commencement of the war was not valid and did not save it from condemnation, and that she has never abandoned. We have lost nothing by that. The difference between the fixing the date at the commencement of the war or thirty days before the war is a difference which I think Mr. Wyatt himself will not rely upon as important when he says, very truly, that under modern conditions the future war will come like a thief in the night. The conversion of merchant ships into cruisers on the high seas is rather misrepresented, if I may be allowed to say so, by Mr. Wyatt. He does not speak of it as conversion into cruisers, but as conversion into privateers, and he says there is no essential difference between a privateer and the position which the converted merchantman would have. The main essential point is left out, that a privateer captures for her own benefit and puts into the pocket of her owner the value of the capture she makes; but a cruiser captures for the State or for the officers or sailors to whom the State passes on that profit. I can understand why Mr. Wyatt adopts that line of argument, why it suits him to represent that a converted merchantmen will not be a cruiser but a privateer; it helps the argument he tries to bring before us that privateering is not really abolished, and that therefore we are not bound by the Declaration of Paris. But I can assure him that there never was a greater chimera started than the notion that the Declaration of Paris had anything conditional in it—conditional on the abolition of privateering or anything else. It was an absolute agreement, binding between those who were parties to it, whether Spain, the United States, or any other Power came in under it or not. I will not trespass on your time to go into a point which the first speaker very ably disposed of, namely, that in our war with Russia, in 1854, we were not really hampered by having suspended the right to capture enemy property in neutral bottoms, because whatever property that right might have extended to, we actually did capture, so far as we could have captured it at all, under the law of blockade. I will conclude with the hope that this Declaration of London will be viewed in a reasonable spirit, that we shall see how much we have gained by it, and that the vigilance which will undoubtedly have to be exercised with regard to it shall not be

¹ Also for conditional contraband in the case of Article 36.—J.W.

dissipated on a number of points to which answers can be easily given, but shall be concentrated on the one point where I have no doubt at all the Declaration of London does require an amendment, namely, that it does not sufficiently safeguard our right of capturing enemy property at sea.

Mr. GIBSON BOWLES:—I wish I could convey my arguments to Professor Westlake, who is, unfortunately, too deaf to hear them, with reference to the statements he has made. He ventured to announce as a lawyer, an International Lawyer, that the position of a vessel converted into a warship by a bit of paper on the high seas would be different from that of a privateer. It would be exactly the same. A privateer is a commissioned ship, and it is not true, as Professor Westlake ventured to tell the meeting, that what a privateer captured was all her own. The captures of a privateer enure to the Crown.

Professor WESTLAKE:—And the Crown passes them over to the privateer. That is a mere matter of machinery.

Mr. GIBSON BOWLES:—No! Precisely the same rules apply as apply to the other captures. The Crown passes over what it chooses. Therefore the lecturer was absolutely right when he likened the condition of a converted ship to a privateer. Captain Caborne quoted an article from the *Times* of some years ago, broadly affirming that there was no such thing as International Law, and that force would decide anything. That is not to be maintained. In every country the rules of warfare are known, and in general they are observed; and the importance of them lies in this, that if you do not observe the rules, especially those which are for the benefit of the neutral, you run the great risk of losing possible allies and of turning your friends into your enemies. That is the great security for the observation of the rules of International Law. It is not true that they do not matter. It is not true that you can disregard them. It is not true that you can afford to look upon them with contempt. Now to come to this unfortunate Declaration of London. Some gentlemen present may be aware that I myself wrote an article with regard to it in the May number of the *Nineteenth Century*. I wrote it with very great regret, and I speak here with very great regret. To my mind the most serious thing that has happened in our time almost is the action that has been unfortunately taken by Sir Edward Grey in this matter, taken at a time when both he and Lord Rosebery tell us in effect that the earth is trembling beneath us and that at any moment a great outbreak of war may come upon us. I think my countrymen have all gone mad. They talk of naval power as though it resided only in ships and guns; but it resides much more in men, in crews and officers. And it resides, above all, in the rules under which you are to carry on the fight. You may have the very finest navy, the completest, the best armed, with the finest crews and the finest admirals, but if you agree, as, I am sorry to say, Sir Edward Grey has agreed, to subject them to rules which will prevent them from doing their proper business, you might just as well have no navy at all. No doubt the great surrender took place in 1856 in the Declaration of Paris. As to that Declaration, Lord Salisbury, in a letter to myself at the end of his life, said it was a rash and unadvised proceeding, wherein he strongly differed from Professor Westlake. I prefer Lord Salisbury. That was the great surrender; but even that surrender left some rags to us. It left us the power to blockade our enemy's coasts. That is taken away by the Declaration of London

in effect. It left us the power of capturing contraband of war. That in effect is taken away by the Declaration of London. It left up-standing the old rules as to the commissioning of war vessels, that they must be commissioned in the ports of the commissioning Power. That goes by the Declaration of London. Let us ask for a moment what our position is. When we are at war our business is to reduce our enemy to submission. The best way of doing that is by stopping his communications at sea. The only way of doing that effectually by means of a navy is to stop those communications by capture of enemy goods and neutral contraband. It was the way in which we brought to book not only Napoleon but the whole of Europe. It is the way by which we could still make the whale fight the elephant, and the navy act on the remotest part of the land. Do not talk to me of railroads. A ton costs twenty times as much per mile to be carried by railroad as by sea. If you will let me stop my enemy's sea carriage I am quite content he should have his land carriage, because everything he eats and drinks and uses will cost him twenty times as much. That is why I shall beat him. At the end of the great war, when the Duke of Wellington entered France from Spain, he found the French paying six shillings a pound for sugar while at that moment we were paying sixpence. To make your enemy pay six shillings a pound for his sugar is the way to reduce him. You do not want to cut his throat. Our business, therefore, is to carry on our war without being interfered with by our friends—that is to say, the neutrals. Our business is to be able to stop everything, or as nearly as possible, stop everything that comes to the enemy's ports. What does that indicate? That we ought, above all, to prevent the neutrals from having any rights at all, so far as we can, that we ought to increase the list of contraband, because every increase in the list of contraband is an increase in our power. Every denial of what are called neutral rights, which are, after all only privileges, enures to our benefit. Instead of which we have gone the other way. We have announced to the world that Sir Edward Grey himself surrenders everything to the neutrals. He says that we want to enlarge neutral privileges. We do not; we want to restrict them. He says we want to diminish the articles of contraband of war. We do not; we want to increase them. I confess I was appalled when I read through this Declaration of London. Now there is one point I would come to about the lecturer. He suggests to us that the making of food conditional contraband of war when destined for an enemy's forces is something new, and that it is against us. Professor Westlake was right; it is not new. It has been always the rule of the British Prize Court. He will find again and again that Lord Stowell condemned biscuits and cheese when destined to a port of naval equipment, and it is a proper rule, in my opinion. But whether it is a proper one or not, it will not hurt us. Look at the map and see the sea avenues into the British Isles. From Ushant to Scilly, the old song said, is 45 leagues. It is 33 or 100 miles. From Scilly to Cape Clear is another 100 miles, from Cape Clear round the West Coast of Ireland to the Naze of Norway is another 500 miles, 1,200 miles altogether, every inch of which you have to stop and close before you can stop importation of a single grain of corn into this country. All the navies of the world could not do it. That is our security. We do not want any protection for our corn. It would always come. Were we at war with the whole world you could not stop those avenues. Therefore I am entirely at variance with him, first, with regard to his facts, when he suggested it was a new rule, and second, as to its evil effect upon us. I say it would have no effect at all.

Mr. WYATT:—I was dealing with the point wholly as regards the present time and of the expediency at the present time, or otherwise of the permission.

Mr. GIBSON BOWLES:—I do not see that that alters what the gentleman said. He gave me to understand, or he left upon me the impression, that it was a bad thing for England that food should be contraband. I think it is a good thing. At any rate, it is no new thing, and I say that all the world might be banded against us, and such are the avenues into these islands, so large their mouths, so absolutely unstopable by all the navies of all the world, that we shall always get our food.

A MEMBER:—It depends on the price you get it at.

Mr. BOWLES:—There is no question of price. For observe: if you are going to get your food with equal or almost equal facility, and in equal quantities, in time of war, as in time of peace, the price will not be touched. If you get as much food the price will not go up, and that is admitted by all the Admiralty authorities. Looking round I am sorry to see so few of those hard faces that usually belong to naval officers. I do not know whether they are engaged in studying the Baconian philosophy, or in asking what would be a *casus belli* in the case of Germany, but I do think it is very unfortunate that the Admiralty should discourage their naval officers coming here, as I am afraid they do until they have retired, and there is no further hold over them. Matters of this sort belong to the naval officer. It is a philosophy of war and a consideration of the rules of war that it is most important he should occupy himself with. I do not know whether I am approaching the end of my time, but I should like to go through one or two points of this Declaration of London. First of all, as the meeting knows, it comes from a most outrageous Hague Conference of forty-six nations, including Switzerland, Haiti, San Domingo, and places like that, met together to form themselves into an International Prize Court. We want no International Prize Court of the sort. In the first place the traditions of our Prize Courts have been always admirable. In the second place, this is a Prize Court in which the military nations would be always predominant, in which England would be always a minority of one, and in which every decision would be given against us. Then the Court itself had no *corpus juris*, no body of laws, and that is why they came to Sir Edward Grey to help them to make a body of laws or to find out what the existing laws were. Sir Edward Grey, most unfortunately, accepted the invitation, and in making this body of laws he has accepted things and proposed things himself which tend to nothing less than the naval ruin of this country. He says that any proposal tending to free neutral commerce was to have our active support. It should have had our active opposition. He says that His Majesty's Government are desirous of limiting the right to seize for contraband. Why, our interest is not to limit it but to extend it. Then he says that you are to give the greatest possible freedom for neutrals in the unhindered navigation of the seas, and, at the same time, he says you are to maintain belligerent rights. You cannot maintain belligerent rights if you are to allow neutrals unhindered and encouraged to assist your enemy. If, when you are fighting for your life with, we will say, Brazil, you are to allow and encourage all your friends to supply Brazil with arms which otherwise she would not get, to supply her with provisions, and with all she wants, which otherwise you would prevent her getting, then I say you are

allowing the neutral to take a part in the war, which is contrary to neutrality and which must certainly end in your own ruin. Your policy is against that. I do not much wonder at the things which have happened. It is a hundred years since we have known what a real war was. It is fifty years since the Declaration of Paris, when we avowed that we did not understand what war should be. And now at this moment, in this last surrender, it seems to me we are in the insane position of going about to build *Dreadnoughts*, which will be of no more use to us at sea than so many fire engines in Pall Mall. There is one particular point which nobody has yet touched upon. For years we fought against the pretensions of the Northern Powers, that the mere presence of a convoying ship should secure a neutral merchantman or merchantmen from search, from all question. That most proper opposition to a make-believe convoy has now been given up. What is the effect? You may have a fleet of 100 or 500 pretended neutrals, under the convoy of a torpedo boat, or a converted merchantman flying a neutral flag, and you cannot ask a question or look at their papers. You must take the word of the torpedo boat lieutenant for everything concerning them, though they may all be no neutrals but enemies, or neutrals at that moment chock full of contraband. Why, this was one of the things that England most powerfully resisted when she yet knew what war was. It is a thing that has been given up with the most absolute levity and carelessness. Then there is the destruction of a captured vessel and the transfer to the neutral flag. It is to have an absolute presumption of validity if it has been effected more than thirty days before the war. Then, again, the character of goods—a thing which is at the bottom of the whole story. Enemy goods formerly were enemy goods as shown; if shown at all, by all the accompanying circumstance. Those who are familiar with the Admiralty Reports will know that those circumstances are sometimes extremely complicated. Now there is to be an absolute presumption with regard to them. I assure you that when I read that Declaration of London, and saw that to that Declaration was appended the signature of the honoured name of Grey, I was appalled at the prospect before my country. If we by paper are to give up the sea power and the sea traditions that we have inherited, if we are to abandon the methods whereby we coerced not only the sea but all the lands of Europe, then the days of this country are numbered.

Major-General Sir THOMAS FRASER, K.C.B., C.M.G.:—I should be very sorry to speak at any length on this subject, so well dealt with already; but there is just one point I may mention. In dealing with International questions like the Hague Conference and this Declaration of London, we are dealing with people who speak different languages. At present we have in Parliament, I think, a hundred lawyers out of six hundred and seventy members, and the laws Parliament passes, even though in the English language, to which we are all accustomed, are so vague and uncertain that it requires the ruling of the judges to interpret what the legislators supposed that they meant. I suggest to you that if we go into the babel of tongues of an International Conference or International Prize Court, and if the conditions that are to be laid down beforehand, are committed to one language, and that not our own; judging by our own experience, it will be a very difficult matter for us to get justice. I ventured to touch upon yet another point when speaking here about the Hague Conference some time ago. It is that you are dealing with nations, each of them having their own ideas. The

Hague Conference taught us that instead of being agreeable to our views of doing away with armaments and other theories, they had their own intentions of how they were going to conduct war against us. They were perfectly right, and I never expected they would take any other view. The natural line for every nation is to look to its own interests, and you may be perfectly certain that the judges each nation will select will reflect these views of their fellow countrymen. That being so, when we go into a Court where we are only represented by one as against a large number of representatives of other nations, the whole tendency will be for the views of the majority of other nations to go against our views where we differ, and we shall then be absolutely and entirely overriden. With regard to the question of the difficulty of having binding rules made in a foreign language, I really think it would be desirable we should have the understanding that the rules of International Law and points at issue to be decided, should be in the English language as well as in any foreign language that the Conference pleases to use; and we should not go beyond the engagement that we adhere to what is written in our own language; and if it does not agree with other people's interpretations of other languages, then we should not be bound. It will interest you to hear that Lord Ellenborough, myself, and others, when we spoke here on the Hague Conference, were afterwards condemned to be hanged from the yard-arm by the distinguished editor of the *Review of Reviews*. Now, that editor knew so little about the Navy that he had forgotten yard-arms were no longer in existence. I hope his resourcefulness will not suggest another method, for my own consolation was that, when it came to hanging, we should each, I thought, find a substitute instead.

T. MILLER MAGUIRE, M.A., LL.D., Barrister-at-Law, Inner Temple :—As you have called upon me, I must say a few words, though I cannot pretend to be a naval expert; however much it has been my duty to study the history of naval warfare, I would not undertake to command a fleet or preside over the Admiralty with that fatal facility which characterises political lawyers. They are, nowadays, ready to command anything at an hour's notice, and their readiness is in inverse proportion to their knowledge of the business. I want to support heartily Mr. Wyatt and the ever-fresh and hearty Mr. Bowles. It is really delightful in this age of vote-catching charlatanism to meet an honest politician. Mr. Bowles has been in Parliament, and yet his speech betrayed none of that facing both ways, that trimming, and hesitancy, and fear of truth which pass for statesmanship among the sycophants of a mob. He comes here to tell the truth in the love thereof to this audience, and through its members to the nation at large. Well, Lord Ellenborough throws down a challenge to International Law Barristers, whom he treats with utter contempt apparently, which I cannot pretend that they do not deserve. He appealed to us to study the Laws of War, so as to be able to advise naval officers in the next naval war how to avoid most effectively the traps and snares now being set for them in all directions by the timorous wild fowlers of their own Government—to the great delight of any Power that ever proposes to challenge the predominance of our Navy. He would also have us prepare to defend them when, in the discharge of their duty, they try to drive all shipping belonging to hostile States from the seas. I certainly spent some of the best years of my life studying International Law, and, if the Conference of London, which Mr. Wyatt so justly abhors, be productive of all the harm designed by Sir Edward

Grey, I was a fool for my pains. But if I were either an Admiral or a General, I would follow the example of all great leaders and take upon myself to interpret International Law—which is only a fraud and dryasdust foolery—in the manner that would suit my strategy and the interests of my country best. If, as Lord Ellenborough suggests, in the next war I am asked to take briefs to defend the sweeping strategy of the admirals of the future, who are the captains and lieutenants of the present, I won't instruct them to be over-particular about the exact hair-splitting definitions and restrictions of recent British funk; I will recommend them rather to follow methods whereby—and whereby alone—nations are victorious in war, and if I were a British statesman I should set about diminishing, instead of adding to, the restrictions of that miserable display of imbecility, the Treaty of Paris, 1856. I would suggest following the theory of a great naval authority, Captain Mahan, United States Navy, who says:—"However defensive in origin or in political character a war may be, the assumption of a simple defensive in war is ruin. War once declared must be waged offensively and aggressively. The enemy must not be fended off but smitten down. You may then spare him any exaction and be as humanitarian as you please, like the Irishman who offered to wipe the blood off the face of a man whose nose he had broken; but, till down, he must be struck incessantly and remorselessly." All other forms of war are fiddling, not fighting. As Mr. Bowles proves, the metaphysical subtleties of the International Lawyers of our Government would end in tying up a successful Navy, just like an Army, which was allowed to win a battle but not allowed to gather up the fruits of victory by rapid and crushing use of cavalry. Probably Shakespeare had a very good general knowledge of war: he was familiar with history, he read the lives of great commanders in North's "Plutarch," and he was a man when the Armada was ruined. He met officers who had served in many a deadly struggle in that European cockpit, the Netherlands, and in Flanders, and in Ireland. His advice—I know Lord Ellenborough will pardon my reference to literature, especially English literature, for the neglect of which he has attacked so ably the charlatan system of public schools—Shakespeare's advice is—

"Beware

Of entrance to a quarrel, but being in,

Bear that the opposer may beware of thee."

We followed the counsel of this oracle of time, this precept of historic common-sense most effectively, 1588-1815. But about the epoch of the Crimean War we came under the hateful influence and canting foolery of the Manchester School of Politics, whose maxims, *laissez faire, laissez passer*, grind down the poor, sweat factory girls, adulterate food at home, and knuckle down to foreign truculence. Be mighty brave in words, be laggards in deeds. Mr. John Bright made a speech, and the Declaration of Paris threw away the labours of generations of naval heroes. You know full well how they carried on war in the Shenandoah Valley and in Georgia. Their object was, as was General Grant's in Virginia, by a process of attrition to rub out the armed forces of the enemy. Mr. Bowles shows how we ought to adopt, and hitherto have adopted, a naval strategy of attrition. We obliterated the naval and mercantile resources of our foes. We realised the force of that saying of Pompey quoted by Cicero:—"Consilium Pompeii plane Themis to deum est; putat enim qui mari potetur eum serum poteri." From 1800 till 1815 we

controlled everything maritime, from Copenhagen to the Bay of Biscay, and from Gibraltar to the Levant. Our blockades received the commerce of every State, which adopted the anti-British Berlin and Milan decrees of Napoleon. He was obliged to give his Empress Josephine, in 1806, chicory, and pretend in vain that it was coffee. He tried to supersede the products of our Colonies by chemistry—aniline dyes for indigo, beetroot exudations for Demerara and Jamaica sugar. With regard to the remarks of the last speaker, I, too, utterly despise the newfangled International Law of whimsical sophists, who are "friends of every nation but their own." I would prefer one phrase from Mr. Wyatt and Mr. Bowles to a page of Hague high "falutin" or Grey futility. In the disastrous war between the Northern and Southern States, Federals and Confederates, 1861-1865, the principles of Themistocles, and Shakespeare, and Raleigh were put into practice effectively both by sea and land. There was no scruple among the Confederates about privateering, and the *Alabama*, and the *Florida*, and the *Shenandoah* did much damage to Federal trade. The Federal land forces were not sticklers for mawkish sentimentality. Their mothers had brought forth men—I wish more English mothers would revert to this enterprise, and not foist upon our race the creatures whom Mr. Wyatt so justly abhors—philosophic humanitarians, metaphysical strategists, dialectical tacticians, and drivelling fools. There was no cant about General Grant. When we went before the Geneva Arbitration Tribunal, 1872, we were represented by some of the ablest International Lawyers of the day. What good did they do us? A few broadsides would be worth all their rhetoric. As Mr. Bowles knows, the *Alabama* award was an outrage—an insult to civilisation under the guise of canting progress. There were not claimants enough for the huge sum in which the Geneva umpires mulcted our weak Government. The lawyers of the Latin school decided unanimously against us. Their traditions were anti-British since 1709. They held the armed neutrality theory, against which we waged war in 1789 and 1801. They paid no attention to our lawyers, however eminent; they knew that no force was at their back, and that they represented Pliability, Party and Cant. Sir A. Cockburn made a powerful protest in vain. The whole case was decided on *ex post facto* declarations, called Law, by farce and fraud. We were mulcted in nearly £4,000,000, and to whom we did all this damage by letting the *Alabama* go a-cruising is not known to this day. The same lack of grit and of force has caused the abject failure of Sir Edward Grey's International Balkan policy—much good sacred and ancient treaties did last year. Ever since that Manchester School came into power it regarded war, and the very name of war, as the greatest of all evils—although in many cases it is the greatest of all good—nearly every nation owes its mental and moral elevation, its literary as well as its scientific and military elevation, to the strain and education of war, and its decadence to the luxury of peace—I say that this Manchester School, as Captain Mahan teaches, regards gain, immediate cash, even at the cost of the very souls of its people, as the first object, and regards war as an irretrievable disaster. Ever since 1846, whether at the Peace of Paris or during the American Civil War, or the South African War, in this present establishment of a new-fangled British School of International Law and practice they have deserved our censure. For exposing the national humiliation that must result if this policy be successful, and for bringing its dangers to a clear recognition in this Hall, so that we may all see exactly what a paltry figure is cut by our diplomacy, Mr. Wyatt deserves the very greatest

admiration and thanks. I look with a kind of horror at the fact that only such a handful of interested persons have been attracted by such a subject in our land, under such trying circumstances, in a crisis of our race, when, as Mr. Balfour said this very afternoon, we are about to face a crowd of evils year after year, and where even that sporadic comet without a tail, Lord Rosebery, has given a similar warning. I say a small audience under such circumstances is no credit to the community at large.

Mr. L. GRAHAM H. HORTON-SMITH, F.S.A.Scot., Joint Honorary Secretary of the Imperial Maritime League:—I propose to detain you only for a very few moments in an endeavour to supplement the observations already made, before Mr. Wyatt brings the discussion to its close. The one thing that strikes me forcibly at the present time is this, that after speaking on many a platform in connection with other outstanding matters of essential import to the Navy, and having large audiences often of four figures, when you come to anything which is not, in fact, called a *Dreadnought*, the attention of the public (except at meetings called by the Imperial Maritime League) becomes at once relaxed. There is a largely preponderating body of people in this country, there is even, indeed, an organisation professing to have at heart the interests of the Navy, whose horizon appears to be limited to the contemplation of *Dreadnoughts* and nothing else. When you mention anything like the grossly insufficient provision of destroyers and of medium and small cruisers, it does not interest the public at large at all. When you speak about the necessity of auxiliaries, the need of replenishing the depleted reserve stores, the inadequacy of docking accommodation for *Dreadnoughts* on the East Coast—all of them matters vital to the fighting strength of a fleet—the public at large is not interested. When, again, you come to an equally serious matter, such as this question of the enfranchisement of the neutral, the public at large not only is not interested, the public, generally speaking, has never heard of it before, and thinks it in consequence to be of but small importance. If a leading article is written about it, it is not read. The public at large knows little and cares less, because the shibboleth "*Dreadnought*" finds no mention on the speaker's lips, no mention from the writer's pen. I am sorry that Professor Westlake has gone, because although it is always interesting to listen to lawyers, ever attempting to "distinguish" where too often but little or no distinction is—I happen to be a lawyer myself—I had hoped to recommend to the Professor's consideration the view of another and equally eminent, albeit an ancient, lawyer, Cicero, that "*Inter arma leges silent.*" The Professor, with wonted acumen, draws fine distinctions as to the legal difference between "privateers" and "armed merchantmen." The legal distinction matters, I submit, but little. What does matter is the effect of such a distinction in the hour of war. "*Inter arma leges silent.*" This country is an honourable country; it prides itself upon its punctilious observation of its treaties and agreements; but I do not believe that any other country, when it is battling for its life and for its position in the world, and when its whole existence as a great nation may be in jeopardy, would acknowledge for a moment (unless it suited its purpose so to do) any piece of paper it had signed in time of peace. That is why I am so exceedingly fearful of any signature of the British Government being affixed to any such Declaration as this of London, or, indeed, to any, by which we concede rights which would not be conceded by any other nation under the sun. When, again, one knows (as I happen from behind the scenes to know) that our representatives upon this Conference were actually under the impression that they were holding all these foreign delegates at the end of

what they were pleased to call "a thread," and at the end of that magic item were merely letting these foreign delegates "play," fancying the while that they were holding at their pleasure these astute thinkers of our contingent fops, and making them do what Britain wanted, whilst all the time these British representatives were themselves giving up exactly that which Britain wanted, exactly that which Britain needed to retain, it becomes astounding that the British public should still remain dormant in the face of an abject surrender of British belligerent rights upon the seas. Unless you have something of the enemy's at which to strike, you may go to war if you will, but you will strike in vain because you can do your enemy no vital harm. One other point before I close. In one of Mr. Spenser Wilkinson's most able works, "The Great Alternative," you will find a deeply interesting chapter entitled, "The Secret of the Sea," wherein it was pointed out that the more you enfranchise the neutral, the more you tempt the Colonies of Britain to secede from her. It is a very fateful conclusion, but it is difficult to see any fallacy in it. For, if the Colonies, by being linked up with the mother country, are to have their commerce jeopardised by war, it is not impossible that they may find themselves in a position where they would prefer to "cut the painter" rather than suffer the amount of loss which the non-cutting of the painter would entail upon them. "Cutting the painter" is a phrase I dislike, but it conveys in so little so much. In conclusion, although I do not find it exactly stated in the lecturer's paper, I should like to make it clear that, when this Declaration of London and the Prize Court Convention of 1907 are brought forward for discussion and ratification in the House of Commons, Mr. Balfour should be called upon definitely to state, on behalf of the Unionist Party, that, if they are signed by the present Government, they will be denounced by the Unionist party the moment they return to power, and that along with that denouncement of the Declaration of London there shall be by the Unionist party a denouncement alike of the Declaration of Paris of 1856, so that we may once more see restored in their fullness—to be maintained for ever thereafter unimpaired—the British nation's belligerent rights at sea.

Mr. H. F. WYATT:—I am in the fortunate position of having very little to reply to, and that, not owing to any excellence in the paper which I have ventured to submit, but owing to the great excellence of those speakers who have followed on my side. The speech of Professor Westlake has been almost entirely answered, and crushingly answered, by Mr. Gibson Bowles, whom we have had the extreme good fortune of seeing here this afternoon. There are only now two points with which I need detain you. Lord Ellenborough, while agreeing in the main with all I have ventured to advance in my paper, on one point did not entirely agree, namely, with regard to the effect which would have been produced on Russia during the war which began in 1854, had we exercised the right of capturing the enemy's goods under the neutral flag. He said in effect that this right was secured through the institution of strict blockade in the Baltic and Black Sea. It was secured in that way, but Lord Ellenborough, notwithstanding, admitted that a considerable proportion of the Russian trade found an exit to Danitzie, and was thence carried to sea under neutral flags. Had we exercised the right of capture, we should have been able to arrest that trade, and by such arrest we should have achieved one of the objects of war, which is to do the utmost degree of damage to an enemy's commerce that you can. It is a fact that in 1801 we stopped practically all Russian sea-borne commerce in the Baltic, and, as I have

said in my paper, the effect was so great upon Russia that it caused a sort of palace revolution, in which the Emperor was assassinated. Again, in 1812, as Captain Mahan has shown, the effect of our capture of the enemy's goods under neutral flags was to excite Russia and to drive her to take arms against Napoleon. Russian subjects started a vast smuggling trade with England, and Napoleon made war on Russia in order to try to stop that trade. The same result which accrued in 1801 and in 1812 might have been expected to accrue if we had exercised our full rights in the war of 1854-6. I come now to another point which Professor Westlake made, that the inclusion of food in the list of contraband was no new thing. Mr. Bowles also fell foul of me upon that point. I did not say it was a new thing; I said it was an astonishing thing. With the greatest possible deference and respect to Mr. Bowles, I emphatically adhere to that opinion. To differ from Mr. Bowles on a point of maritime law would be audacious, but the point here involved is a point not of maritime law, but of judgment of effect. One rule which I always follow is to have the courage of my conviction, and I venture, therefore, here, with the greatest deference, to say that I entirely differ from Mr. Bowles, and that I think he is obviously and utterly mistaken in supposing that the capture of contraband goods, coming to England under a neutral flag when we were at war, would have no effect upon prices here. Mr. Bowles' argument is, that we have so many ports that we should have food constantly pouring in at those ports, and that therefore prices at home would not be affected. My reply is this:—First, I bring forward again the instance I brought forward in my paper, namely, that in 1898 the mere rumour of a possible Spanish interference with United States shipping did send up prices in England. That is a pretty big point. The mere rumour, without a shot being fired, sent the prices up from 28s. to 37s. a quarter. If a mere rumour produced that result, how much more would the reality have produced it? I also brought forward this point in connection with the presence of armed German liners all over the world—German warships capturing our commerce in distant seas. Would Mr. Bowles seriously contend that the news of such captures, telegraphed to England, would have no effect on prices here? If that be, indeed, his almost incredible belief, then let him consult any shippers of foodstuffs and he will be at once disabused of his error. The question is not merely one of the actual supply of food, nor is it the case that the food once here is then sold at a stated price determined by the State. Nothing is more delicate and complicated than the machinery of wholesale and retail dealing. We have the dealers in the food in England, and on the news of a capture they would hold back for prices to go up, and in holding back they make them go up. The proposition that a large number of ships might be captured, carrying food to England, and yet that the capture would not affect prices here, seems to me a monstrous proposition. If that is so, and if the effect on prices would be what I submit, then I continue to say that the proposal that food should be included in a list of contraband was a most astounding proposal to proceed from the British delegates. The fact that it is part of former Admiralty law has nothing on earth to do with it. It may have been fifty thousand times part of Admiralty law in the past, but it does not follow it has any sense now. Lord Stowell's decisions, to which Professor Westlake referred, date back a long time ago, and all the essential conditions have now altered. We are now entirely dependent for by far the greater part of our food supply on over-sea sources. That, I think, pretty well disposes of that point. There must have been joy and

pleasure in Continental countries, in the Chancellories of foreign Empires, when they saw what were those provisions of the Declaration of London to which we had agreed. At any rate, I have done this: I have secured for you several interesting speeches from those who followed myself, and it only remains for me to commend this subject to your further attention, and to thank you for the kindness and consideration with which you have heard me.

The CHAIRMAN (Vice-Admiral Sir C. Campbell):—It becomes my pleasing duty to move a vote of thanks to the lecturer and speakers who have interested us so much this afternoon. There has been a little difference of opinion, but we can only hope the result of this meeting and the publication of the discussion may go some way to show those who govern the destinies of this country that it is great and wise to consider before they ratify this Convention.

MACHINE GUN TACTICS IN OUR OWN AND OTHER ARMIES.

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On Wednesday, 6th October, 1909.

Colonel W. N. CONGREVE, **V.C.**, M.V.O., in the Chair.

THE Russo-Japanese war has given us many striking lessons, and perhaps not the least important is the new light it has thrown on machine guns, their value on the battlefield, and their extraordinary power for decisive action when properly organised and handled. Their success in Manchuria—one of the features of the campaign—proves them to be a most important reinforcement to cavalry and infantry.

That this lesson has been accepted by the European Powers is shown by the almost universal re-organisation and increase of this arm, Japan and Russia leading the way.

I shall endeavour to deal with the use of machine guns in war, their place in the battlefield, and the general principles that should govern their tactical employment; and I only venture to express the opinions and make the suggestions that follow, on the understanding that I am to raise points for discussion at the end of the lecture, and the more debatable my hypothesis, the greater the opportunity for instructive criticism.

In the first place it is necessary to clearly understand the nature and potentiality of the arm with which we are dealing in order to fix its value as a fighting weapon, and I shall therefore say a few words on machine guns themselves.

The modern machine gun is essentially an automatic weapon of small arm calibre, capable of firing from 100 to 600 shots a minute from a light mounting of extreme mobility, and should fulfil the following qualifications:—

1. It should be able to deliver about 400 shots a minute without loss of accuracy, even with prolonged "continuous" firing.
2. It should be capable of accompanying cavalry and infantry wherever these arms can go, occupy the smallest space, and be able to go into action quickly at rifle range.

3. It should have a firm mounting, upon which the gun is steady, and from which it can be aimed rapidly and fired while kneeling, sitting, or lying.
4. The gun and its mounting must present a small target, and be light enough for each, and, if possible, both, to be carried by one man for a considerable distance, and should admit of being dragged by a man crawling or crouching for short distances.
5. It should be in constant readiness for action and able to fire when limbered up if on wheeled carriage.
6. It should be simple, strong and durable. Mobility and constant readiness for action are indispensable with cavalry, while lightness and smallness of target are essential factors.

There are seven main types of machine gun at present in use in the armies of the world, viz. :—

Gun.	In use in.
Maxim	Great Britain, Germany, Russia, Italy, Portugal, Turkey, Switzerland and U.S.A.
Hotchkiss	France, Japan, Belgium, Norway, Sweden, Spain and Portugal.
Perino	Italy.
Puteaux	France.
Schwarzlose	Austria.
Skoda	Japan and China.
Madsen	Russia, Denmark (Rekyl pattern), and China (for Cavalry).

The principal differences between these guns are :—

- a. The automatic mechanism.
 - b. Method of loading.
- a. may be divided into two classes :—
1. *Recoil action*—the Maxim, Perino and the Madsen.
 2. *Gas pressure action*—the Schwarzlose, Hotchkiss, Skoda and Colt.
- b. consists of three classes :—
1. *Belt loaders*—the Maxim, Schwarzlose and Colt.
 2. *Metal clip loaders*—Hotchkiss, Madsen, Perino and Puteaux.
 3. *Hopper loaders*—the Skoda.

Several of the above countries, notably Russia, Japan, France and Austria, have more than one pattern of gun in their

service, and it is difficult to say which they intend finally to adopt, but Russia, since the war, has ordered several thousand Madsen guns, and Japan is said to be trying this gun, one of which during the war fired 25,000 shots in a single day.

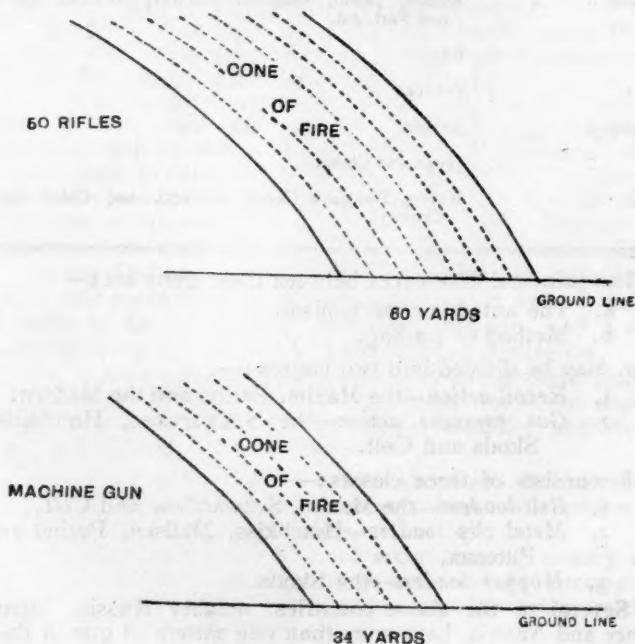
I have purposely omitted the Rexar gun, which only weighs 17½ lbs., but is fired from the shoulder and is therefore more of the nature of an automatic rifle than a machine gun.

It would take too long to deal with each of these weapons separately. I shall therefore select the Maxim as the type with which to discuss the question of tactics, but it will first be necessary to demonstrate its capabilities and fire value as compared with other arms.

Rate of Fire.

Machine guns of this class are capable of discharging 600 shots a minute, but this very high rate of fire is obviously undesirable for several reasons, the principal being that, however skilfully a gun is handled, a great waste of ammunition must ensue, for a single man would be struck with 8 or 10 bullets and hundreds of bullets would be wasted in space. These guns are therefore regulated to fire at a maximum rate of 450 rounds

TO SHEW THE ZONE BEATEN BY 50% OF BULLETS



a minute. The extreme range of this type of gun is, for practical purposes, the same as the infantry rifle, viz., about 3,500 yards, though it is more effective at the extreme ranges than an equal intensity of rifle fire, owing to the stability in mounting, which causes it to have a beaten zone of only half the depth, and nearly half the width, of rifles firing the same number of rounds.

Rifles and Machine Guns.

Careful experiments carried out at Hythe between 50 infantry and a machine gun, each firing the same number of rounds at ranges from 500 to 2,000 yards, proved this conclusively. The diagram on page 36 gives the result of the test at 1,500 yards, showing the depth of ground beaten by 50 per cent. shots.

Another experiment carried out at the School of Musketry, South Africa, between 42 rifles, all marksmen or first-class shots, and a Maxim, at an unknown range (about 1,000 yards); time allowed, 1 minute; ammunition, unlimited; targets, a line of 50 head and shoulder figures at one pace interval, resulted as follows¹ :—

—	Rounds fired.	Hits.	Per cent.	Figs. hit.	Percent. of loss.
Rifles ...	408	62	15.1	27	54
Maxims ...	228	69	30.2	32	64

The rates of rifle fire are "slow"—3 rounds a minute—and "rapid"—15 rounds a minute. Slow fire is the normal rate, and "rapid" fire can only be used for a short time when a sudden burst of powerful fire is required at a critical moment, and it can only be kept up for about 3 minutes, at the end of which period the firer is exhausted, the rifle too hot to handle, and the aim consequently erratic. This is when the men are fresh, and they would probably be unable to keep up effective rapid fire for more than a minute and a half, after being in action for several hours. It is here that the machine gun is so greatly superior to rifle fire—it is never exhausted, and it never loses its accuracy through the firer becoming tired.

Fire Power.

To compare the power of this gun with rifle fire: We may safely say it is equal, if not superior, in fire effect to a half

¹ A similar experiment carried out between 42 "sharpshooters" and a Maxim, during the annual training for 1908 in the U.S.A., at 600, 800, and 1,000 yards, at the "L" target, each firing 750 rounds, resulted in 22.45 per cent. in favour of the Maxim. The Maxim fired "rapid continuous," and the men slow individual, the latter using the new S bullet.—*U.S. Cavalry Association Journal*, July, 1909.

company of infantry, while it has the enormous advantage over infantry of occupying only five feet of ground instead of fifty yards. In other words, fire equal to that of a battalion of infantry can be delivered from a frontage of only 60 yards. Its vulnerability depends entirely on its mounting, which should be as near the ground and as inconspicuous as possible, and as it requires but two men to work it, it presents a very small and difficult target.

Mobility.

The last consideration is its mobility, and even here it is so vastly superior to infantry as to be beyond comparison. The gun now only weighs 36 lbs., while it can be used with effect from a mounting of 40 lbs. weight; therefore on a suitable carriage it should be capable of moving with the rapidity of cavalry.

Fire Effect.

Napoleon's maxim that "Fire is everything, the rest of small account," is only applicable to the machine gun when the fire is *effective*; nothing is so useless and wasteful as ineffective machine gun fire, and the careful study of fire effect is imperative with this weapon, and the beaten zone is perhaps the most important factor in obtaining effective fire.

Beaten Zone.

We have already seen that the range of the machine gun is practically the same as that of the rifle, but that the beaten zone is only half the depth and about half the width of the collective fire of infantry, partly owing to the rigidity of the mounting and partly to the fact that the human error is greatly reduced by being concentrated in the person of a single individual, instead of being spread over some 50 men of different temperament, nerves, and aiming power.

The depth of the zone beaten by 75 per cent. of bullets—which is the effective zone—is, at 500 yards, only 125 yards, against 220 yards for rifle fire; at 1,000 yards it is 70, as against 130; and at 1,500 yards it is 60, as against 100 yards. Therefore the extreme permissible error in estimating range is: at 500 yards, about 60 yards; at 1,000 yards, 35; and at 1,500 yards, 30.¹

In addition to these factors, the fire from machine guns is always *collective* and *concentrated*, unless deliberately dispersed by the firer, while rifle fire is always *individual* and *dispersed*, unless specially controlled by fire discipline under a leader. Fire discipline and fire control are in the hands of one man; there is no need to point out the target to a scattered firing line; there is no delay in passing orders down the line, in the setting

¹Lieut.-Colonel W. D. Bird, D.S.O., in lecture before the Aldershot Military Society.

of 50 different sights for the correct elevation, and for ensuring that the rate of fire and expenditure of ammunition is regulated by the effect produced. Thus fire can be opened far more rapidly and accurately than with rifles, and can be at once directed on a fresh target without ceasing fire, while the effect can be seen by the firer, who can instantly change the rate or cease fire altogether.

Cone of Fire.

For ranges over 500 yards it is absolutely necessary to know the range accurately or to find some other method of bringing the "effective zone" on the target. The machine gunner may be likened to the fireman with his hosepipe, whose object is to bring the base of his jet of water to play on a certain spot some distance away from the nozzle of his pipe. He does not trouble about the distance; he does not require to know the range; but, pointing the nozzle in the direction he desires to strike, he elevates or depresses it until he *observes* the base of the cone of water falling on the right spot, and then he holds his pipe so that it continues to fall where he desires. He does not trouble about the smaller streams and drops of water that fall short or go beyond, but devotes his whole attention to keeping the nucleus of the stream—the 75 per cent. or 50 per cent.—falling on his "target." In precisely the same way the machine gunner must look upon his stream of bullets as a stream of water from a hosepipe, and his object must be to cause the centre of that stream to play on the target; this can best be done by "observing" the strike of the nucleus of the shots and altering the elevation accordingly. This observation of fire is the best method of obtaining the correct elevation at "effective ranges" (i.e., 600 to 1,400 yards), if the ground is suitable.

Observation of Fire.

If the target is only visible for a short time, groups or "gusts" of rapid fire may be fired; but as a rule "deliberate" fire at the quickest rate should be employed, and "rapid" only used when the range has been found. If the ground is not favourable for the observation of fire, or the range is too great, this method cannot be used, and it will be necessary to obtain the range by instruments; but it will not always be possible to do so, and it is necessary to find some other reliable way of ensuring that the target is within the effective zone.

Combined Sights.

Supposing the range to be estimated at 1,000 yards, the effective zone is about 70 yards in depth; therefore an error of only 50 yards in estimating the range will render fire ineffective. There is but one way to overcome the difficulty, and that is by increasing the effective beaten zone, and this can be done by

using "combined sights," and thus making two or more beaten zones which touch each other and overlap where the effective 75 per cent. of shots of each ends.

There are two ways of using combined sights:—

- a. The "single gun" method.
- b. The "battery" method.

In (a), with an estimated range of 1,400 yards, the sights will be set for 1,300, and aim taken; then the sights will be again set for 1,500 yards, but without altering the original aim, and "rapid" fire opened and the elevating wheel slowly turned to elevate the gun until the 1,500 sighting is aligned on the target. The result of this operation is to sweep the whole ground from 1,275 to 1,525 yards with effective fire, and if an error of 125 yards over or under the correct range has been made, the target is nevertheless brought within the effective zone by the combined elevations used.

The second method (b) is only used where at least four guns are available. The range is estimated as before, and then each gun uses an elevation differing by 25 yards from the next; thus, taking 1,400 yards again as an example of the estimated distance, No. 1 will use 1,325; No. 2, 1,350; No. 3, 1,375, and so on, No. 6 using 1,450 yards. In this way the effective zone of No. 1 gun will just overlap the effective zone of No. 2, and so on right up to No. 6 gun. Thus, instead of one small zone of 50 yards of effective fire, we have six guns joining to make one big effective zone 175 yards deep.

We have now examined its principle and characteristics and find:—

1. Fire effect—50 rifles.
2. Vulnerability—A "file" (two men).
3. Mobility—Cavalry.

We are now able to decide its place in battle, and can discuss its tactical use; before doing so, however, let us see what has been done in this matter by other Armies.

Germany.

Germany was the first great power to adopt modern machine guns in her Army, and before doing so she appointed a Committee of the Great General Staff to experiment with the guns, and to report on the best method of employing them. The result of these experiments was that the gun was mounted on a sleigh, capable of being dragged by hand into almost any position, and which can be adjusted to fire 1 foot 6 inches, 2 feet 6 inches, and 3 feet 6 inches above the ground. This sleigh is mounted on a galloping gun-carriage with limber, by a single clamp acting on the runners, and the gun can be fired from this carriage as well as from the sleigh if so desired. Each gun has four horses, and the whole detachment are mounted or carried on the guns. The

guns are organised in batteries of six, called "Sections," which are again sub-divided into "Divisions" of two guns. To each "Section" (*i.e.*, six guns) is allotted three ammunition wagons and one battery wagon with 87,000 rounds. In order to avoid confusion I shall use the English words "battery" and "section" to express six and two guns respectively. There are 16 of these independent batteries, which in war would be attached to cavalry divisions. In addition to these each regiment is to have one company, "The 13th," consisting of six machine guns, each drawn by two horses, with three ammunition wagons and one reserve wagon, carrying 72,000 rounds, viz.:—

With the guns	18,000
With the wagons	42,000
In the reserve wagon	12,000
	<hr/>
	72,000

The staff of the machine gun company will consist of:—

- 1 lieutenant commanding;
- 9 N.C.O.'s;
- 74 men;
- 28 horses (7 saddled, 18 draught, and 3 spare).

The officers and three warrant officers are mounted, the men are armed with automatic pistols, and the infantry pattern range-finder is used.

Guns are never used singly. The general principles governing their use are:—

1. A powerful reserve capable of rapidly bringing an intense and overwhelming infantry fire to bear on any desired spot at the critical moment of the fire fight, with a minimum of front and vulnerability.
2. With independent cavalry to enable them to retain their mobility and functions as cavalry by doing away with the necessity for dismounted action.

Batteries of machine guns are under the immediate command of the G.O.C. in the field, except when attached to the independent cavalry. Their regulations and directions for tactical handling are very thorough and complete, there being no less than 261 paragraphs in their Official Text Book.

"The fire of a machine gun is approximately equivalent to that of 80 infantry; the dispersion of fire is considerably less; therefore, while the effect is greater with an accurate sight, it is less if the range is not accurately known. The most suitable targets are those of some size and depth, *e.g.*, infantry columns, cavalry in all formations, and artillery when limbered up. At moderate ranges extended firing lines may be fired upon, but little effect can be produced upon men lying down, even at the

shortest ranges, though the moral effect may be considerable; short bursts are more effective than long continuous fire."¹

Russia.

Russia had 80 machine guns at Liao-Yang (September, 1904). The mountings were found unsatisfactory, and new wheeled and pack transport was adopted. Six-gun batteries were attached to the cavalry divisions, but since the war each cavalry regiment has had two guns permanently allotted to it.

In December, 1906, four-gun companies were allotted to each infantry regiment, and by November, 1907, 115 companies of 896 guns had been formed. These companies consist of four guns each, but are to be raised to eight as soon as possible—practically the whole of the infantry have now got them. The company at war strength consists of 2 officers, 50 N.C.O.'s and men, 35 horses with wheeled transport, and 36 with pack; the gun is sighted to 2,000 yards, weighs 68 lbs., the total weight with tripod, etc., being 198 lbs. 5,850 rounds are carried per gun. The Souchier range-finder is used.

Japan.

Before the war Japan had no machine gun organisation, but six-gun batteries were hastily formed and attached to the cavalry. The importance of these weapons at once appeared, and Hotchkiss guns were manufactured at Tokio, and, with Maxims purchased in Germany and America, were formed into six-gun batteries and attached to each infantry division. At Mukden each regiment had three guns attached, and by the end of the war 320 machine guns were available.

The Hotchkiss pattern has now been adopted and is mounted on a tripod weighing 40 lbs., the weight of gun and tripod together being 110 lbs. The gun has an all-round traverse, it is carried on pack animals and organised in six-gun batteries, one battery being allotted to each regiment; the battery is commanded by a captain or lieutenant, with a warrant officer, 6 N.C.O.'s, and 36 men, 30 horses (6 for guns and tripods, 24 for ammunition). One ammunition horse follows each gun, and 18 under a warrant officer form a battery ammunition column; each horse accompanying the guns carries 1,500 rounds in two boxes, and 2,160 in four boxes are carried by each horse with the column. Each cavalry brigade has an eight-gun battery divided into half batteries of four-guns; the staff consists of 3 officers and 87 rank and file, all mounted. There are 32 ammunition horses, each carrying 2,400 rounds.²

Tactical.—The guns are organised as a battery, but may be broken up into sections or even single guns. The most useful

¹ Captain von Beckman in *Jahrbücher für die Deutsche Armee und Marine*, June, 1908.

² Von Löbell's Annual Report, 1908.

range is 800 yards; it is thought wrong to employ slow fire. Well hidden skirmishing lines or machine guns are considered unsuitable targets. They are never used to replace artillery or to fire at artillery at long range. Concealed positions and use of flanks and rear advocated; alternative position, great intervals between guns and measured ranges essential to success. Their tactics are undergoing modification, and there are likely to be many changes.

The Japanese may claim to have invented the first machine gun, if the following extract from a lecture lately delivered by Lieutenant Imari is correct:—"In 1704 a Japanese (one Moue Geki), invented a 20-barrel Mitrailleuse; but a certain Sofu Ichimu, thinking the invention of such a weapon was a proof of seditious intentions, invited the inventor to his house and killed him.

"After which," as the lecturer naively remarks, "there was no inducement for men to invent such weapons."

France.

France has both the Puteaux and the Hotchkiss. Each infantry and cavalry brigade has a two-gun section attached, but it is intended that every regiment shall ultimately have a two-gun section. The question of mounting has not yet been definitely settled, but experiments are being carried out with wheeled carriages, similar to our own, but drawn by four horses.¹ They have also tripods for use with infantry, which can be adjusted from 1 foot 3 inches for lying to 2 feet 6 inches. The weight of the gun is 50 lbs., and of the tripod 70 lbs. The detachment of one lieutenant, one under-officer, and 23 rank and file, are armed with rifles; the whole detachment with cavalry are mounted; no shields are used. The detachments have a Souchier telemeter, which is carried on a man's back, and has an error of about one per cent. Ammunition is carried in boxes, three on each side and one on top of a pack saddle; 8,700 rounds are carried with the pack transport, 16,500 with the cavalry ammunition carts. During the last year 4,000 machine guns have been issued.

Austria.

Austria experimented in 1906 with the Schwarzlose. Last year three Army Corps received three-gun sections, and two cavalry divisions have been provided. It is intended to give each infantry regiment two guns, and each cavalry regiment four guns; pack transport is used, but has not yet been permanently adopted.

Italy.

Italy has adopted the Perino, which has a water-cooled barrel and fires 425 shots a minute. It is loaded by a magazine con-

¹ Von Löbell's Annual Report, 1908.

taining 10 metal clips, each holding 25 cartridges. The gun weighs 27 kilograms, and is mounted on a tripod which weighs 20 kilograms, and can be adjusted to fire from any height by moving the legs.

The Commission appointed to test the gun recommended that 4 guns should be attached to each regiment of cavalry and infantry, with the following detachments:—

For cavalry, 1 N.C.O. and 5 men, with 2 horses per gun.

For infantry, 1 N.C.O. and 4 men, with 2 mules per gun.

No details as to ammunition, method of carrying, or tactics have been settled yet.

U.S.A.

The U.S.A., after prolonged trials, have adopted Maxims with tripod mountings, carried on pack animals. Every cavalry and infantry regiment is to have a section of two guns.

First-Lieutenant A. E. Phillips, of the 10th Cavalry, gives some interesting notes on Machine Guns with Cavalry in the JOURNAL of the U.S.A. Cavalry Association for July, 1909. A test between 41 "sharpshooters" and a machine gun, each firing 750 shots at 600, 800, and 1,000 yards, resulted in 57 hits for the rifles and 97 hits for the machine gun, the percentage in favour of the gun being 22. The men used pointed bullets and the machine gun the old bullets; the men fired slow-aimed fire and the machine gun rapid continuous.

The 10th Cavalry machine gun detachment, at the divisional meeting for 1908, from the halt in line moved forward in section column at a gallop for 200 yards, and went into action and fired a blank shot in 31 seconds. Speaking of the Maxim, he says: "No one without hard study and patient experiment can effectively handle the weapon."

Switzerland.

Switzerland has just adopted the Maxim of 1908 pattern. Each of the four army corps has one mounted machine gun company of eight guns divided into four sections of two guns each. These companies are also attached to cavalry. The guns are carried on pack horses. The whole detachment is mounted, and they use their guns in the place of Horse Artillery, which arm does not exist in their Service.

Denmark.

Denmark has the Rekyl gun (Madsen pattern), and each squadron has a section of three guns carried on pack horses, 300 rounds with each gun, and one led horse with each gun with spare ammunition.

General Principles.

I now come to the general principles governing their tactical employment in modern war. Machine guns enable commanders

to develop at fixed points the maximum volume of rifle fire from the smallest possible front. Machine guns can be employed over any country that is practicable for infantry, and when once they are unlimbered they must be able to surmount considerable obstacles. In action they offer no greater target than riflemen fighting under like conditions, and they can, in proportion to their fire value, support far greater losses than infantry. When movement over the battle-field is contemplated, and the machine guns are unlimbered, they must be pulled or carried forward by hand. They can utilise all cover which infantrymen are able to use; cover which is barely sufficient for a section of infantry can protect an entire machine gun detachment. An engagement with a line of skirmishers under good cover should be avoided. It demands a heavy expenditure of ammunition, which is not commensurate with the result obtained. During a lengthy rifle action, the detachments with their guns should be withdrawn temporarily from their position, so as to save their effect for the decisive moment.

Machine guns should be employed in pairs and in mutual support.

The whole detachment must not only be trained to work the guns, but must be also trained scouts and range takers. Nos. 3 and 4 must carry range-finders. When moving alone on the march or advancing into a position, scouts working in pairs must be pushed out ahead and on the exposed flank or flanks, and they should be taught to use a system of signals to indicate the following:—

1. All clear.
2. Enemy in sight.
3. A good target in sight.
4. Cavalry (prepare for).
5. Artillery within range.
6. A good gun position.

Six simple and unmistakable signals can be easily learned during peace training, and might prove invaluable on service, for opportunity is everything to the machine gunner, and is usually so fleeting as to demand instant action.

Taking up a Position.

On moving to occupy a position, the guns will usually be in line at from 10 to 100 yards interval, with the sectional commanders leading their sections, and the scouts well ahead; the flank guns must arrange for the protection of the flank by scouts in the same manner.

The Germans consider that ground scouts should never go into the position, as they are so liable to expose themselves, and thus "give the position away"; and, as I have already pointed out, "surprise" is the essence of success. They say that the commander of the battery or section, whichever the unit may be,

should alone examine the position and select the place for his guns to come into action, and I am quite sure this is the right method as a general principle. But in broken and hilly country, where cover is abundant and the position extensive, a battery commander can do no more than indicate generally the positions to be occupied by the sections, and it will be then advisable for the section commanders to select the gun positions. If the cover is good, the range-finders may next occupy the gun positions and proceed to take ranges. In open country, where there is no good cover in the position, the scouts will only approach it sufficiently to ensure that it is not occupied by the enemy, and will then halt and find a good position for the guns to unlimber. The commander, passing through the scouts, will then reconnoitre the position himself and select the place for moving into action.

There are two methods of taking up a position, which depend for their choice upon the proximity of the enemy and the time at which the fire is to be opened. The first is the "deliberate" method, in which the guns are brought up and the ranges taken before the target appears. Cover is essential to success, and the guns must be most carefully concealed, the whole object being to surprise the enemy when the moment arrives, and therefore concealment is the first object in view. For this purpose artificial cover may be made by erecting screens of boughs, etc., in front of the guns, which are thrown down the moment before opening fire.

The second method is used when the enemy is in the immediate vicinity, when the country is open, and the position is without cover, or when within the artillery range of the enemy. The guns unlimber and prepare for action immediately in rear of the gun positions, and as close to them as possible, but completely out of sight of the enemy. The commander alone goes into the position, and having selected approximately where each gun is to go, he stations them immediately in rear of their intended fire positions. He then creeps forward alone and watches for the opportune moment. When this arrives, a blast on his whistle brings the guns up with a rush—no concealment is attempted, but, fully exposed, each gun opens fire on the nearest target. If the moment has been rightly judged and the range properly estimated, 60 or 90 seconds is sufficient time to obtain the desired effect, and before the enemy's artillery can get the range, a second signal from the commander sends the guns out of action again as rapidly as they appeared.

This is one of the most successful methods of employing machine guns. There is no risk of being discovered before the target appears; there is no "giving away" the position by careless scouts, and there is no chance that a powerful pair of field glasses will discover the guns in position before they open fire and turn the tables by surprising them. On the other hand, it requires a very highly-trained detachment and a vast amount of practice to ensure its success.

Alternative Positions.

Alternative positions are always necessary when the deliberate method is used, and must be carefully practised in peace, the principal points being:—

1. That the second position is suitable for bringing effective fire to bear on the enemy.
2. That the gun is able to gain the position without exposure.

Scouts so often forget that they can work with ease where it is impossible to carry a gun, and unless the foregoing conditions are fulfilled, the positions may be useless.

Mutual Support.

Guns must always work in pairs for mutual support—one gun firing while the other remains concealed. When it is necessary for the gun firing to move to a new position, the supporting gun will open fire and cover its retirement. It will always be advisable, and generally necessary, for a gun to move to an alternative position directly it has fired, and not wait until compelled to go; every gun and rifle within range will be turned on a machine gun when discovered, but if it is cleverly concealed and quickly withdrawn it may draw fire to its late position while it moves out of sight to a new and possibly an enfilading one.

Method of Firing.

The peculiar noise made by the Maxim firing "continuous" attracts attention at once, but if teams are trained to use "deliberate fire," a rate of 70 to 120 rounds a minute may be easily attained, and if the double button is struck irregularly to imitate rifle fire, considerable effect may be obtained on a target which would not justify "continuous" fire, while the gun's presence is not disclosed at all.

The place for unlimbering must always be as close to the position as possible without exposing the teams to fire or view, and the reserve ammunition must be brought up to this spot. Precautions must always be taken to prevent the teams being surprised from the flanks or rear if exposed.

With Infantry.

Machine guns with infantry should be used as a mobile reserve and held back until the decisive moment of the fire fight. They should be under the immediate orders of the G.O.C., and must therefore be organised in batteries under a responsible officer. They should never engage a line of skirmishers and must be used to bring an overwhelming fire to bear on the point selected for assault after the last reserve has been thrown in. Owing to their narrow beaten zone and great accuracy,

they can be used to fire over the heads of attacking infantry within a hundred yards of the position.

"An officer who commanded one of these batteries at the battle of Mukden, and who later was detailed to lecture to the attachés with the First Army (Japanese), said that on one occasion there he continued this fire until their advancing infantry had arrived within 30 metres of the enemy's position."¹

Covering Fire.

They are also valuable in the first deployment as covering fire, owing to the rapid and concentrated fire they can deliver and the ease with which they can sweep ground, change the target, and open and cease fire. When used for this purpose they should be concealed as much as possible, and where the ground is suitable, the fire should be indirect from the reverse slopes of a hill, so as not to attract artillery.²

They may also be used to reinforce threatened points, when their mobility will enable them to arrive at a distant part of the battlefield with the rapidity of cavalry; they must rarely be used in the firing line where their fire, being dispersed, is less effective than an equal volume of rifle fire, and where they are at once the target of every rifle. Machine guns can never engage artillery and should avoid engaging other machine guns.

Use in Recent Campaigns with Infantry in the Attack.

The following examples from recent campaigns will illustrate their proper and improper use under these conditions:—

At Mukden, on the 1st March, all the machine guns of a whole Japanese division were brought into action upon a Russian *point d'appui*. The Russian fire was silenced, but burst out again whenever the machine gun fire slackened. The Japanese used these pauses in the enemy's fire to press forward to close range under cover of their own machine gun fire. On 2nd March, three machine guns of the 10th Japanese Infantry Regiment acted in the same way against the Russian field work.³ This method of employing machine guns demands the closest possible co-operation with the infantry from the commencement of the fight.

Improper use in Firing Line.

At Paardeberg the machine guns of the infantry attacking across the open, upon the left bank, were used in the firing line, and when the advance was checked their guns could not be withdrawn and were left standing upon the open plain. I believe the detachment suffered terrible losses.⁴ At Rietfontein

¹ United States Official Report on Russo-Japanese War.

² See Appendix.

³ "The Great Siege," by Norregaard.

⁴ *Times'* History of South African War.

a detachment of the Gloucester's Maxim were almost annihilated when following the regiment in the firing line. Again, at Modder River, the Scots Guards' Maxim detachments were annihilated by Pom-Pom fire, while advancing with the firing line, and the gun was left on the plain all day.

At Skirmishers.

At Hei-kon-tai, on 27th January, on the left flank of the Japanese army attacking Sha-shan, four Russian machine guns, at a range of only 1,000 yards, swept the widely extended skirmishing line of the attack. Captain Takenouchi, who was present commanding the company, says:—"It had no effect whatever on our advance, and the enemy eventually evacuated the position."

In the Defence.

In the defence they should be concealed and held back in reserve until the moment of assault, then their great fire power may be utilised with decisive results.

They are particularly useful at night with the outposts, as they can be trained by day to sweep roads, defiles or bridges, and can thus be used in the dark to sweep the approaches with accurate fire.

At Mukden, on 1st March, the left of a Japanese division, being within 300 yards of the enemy's position and about to assault, the Russians suddenly opened a very heavy machine gun fire from cleverly concealed positions, causing such loss that the Japanese attack was temporarily suspended.

On 20th August, 1904, the Japanese captured a Lunette near Shuishi, after severe fighting, and the Russians made a counter attack with three machine guns, and drove the Japanese out again with a loss of over 300. The three machine guns retired from the Lunette before the attackers got home, and taking up a position behind an open gorge of the work, showered such a hail of bullets on the victorious Japanese that they were compelled to retire.¹

On the attack on 203 Metre Hill, machine guns on Akasakayama flanked the position and enfiladed the attackers. 400 Japanese were sheltered together in a parallel, where they were completely screened from fire from any part of 203 Metre Hill. Suddenly machine guns, which had been concealed on Akasakayama, where they could fire directly into the parallel, opened fire. Within a few seconds it was turned into a veritable pandemonium, a seething mass of humanity, where men were fighting wildly to get away, climbing over piles of corpses which blocked the entrance, and trying to escape down the coverless hillside. Within a few minutes practically the whole force was wiped out. It took the Japanese days to extricate and carry away the fearfully intermingled corpses.²

¹, ² "The Great Siege," by Norregaard.

By Night.

The following is only one of the many instances in this war where machine guns have been able to repel a sudden night attack, when no other arm could have succeeded.

During the storming of Erhlung, at midnight, on the 26th November, the Japanese made a desperate attempt to storm the upper battery, but the assailants were mown down by the machine guns as soon as they appeared on the parapet.

Against Artillery.

The result of not concealing them in the defence, and the necessity for alternative positions, is well illustrated by the following examples, which will also show their impotence against artillery:—

At Kensan, on 26th June, 1905, when the Japanese were attacking the position, the Russians brought up two machine guns against the 43rd Regiment and a mountain battery at 3 p.m. The battery at once silenced the machine guns, and by 5.30 p.m. the hill was in the hands of the Japanese.

During the attack on North Kikuan Fort, on 19th December, by the 38th Regiment, the Russian machine guns took an important part in the defence, their galling fire making fearful ravages among the attacking party. The Japanese, therefore, got a couple of mountain guns hauled up on to the parapet, and with these succeeded in silencing the Maxims.

With Cavalry.

The machine gun is essentially a cavalry weapon, and although this fact is fully recognised by the great Powers, as I have shown, I am afraid it is hardly admitted as such in our own Service, and I do not think that I shall be contradicted if I assert that many of our cavalry officers look upon it as a rather unnecessary encumbrance.

The cavalry rôle is undoubtedly to fight mounted, and the object of the enemy should be to compel them to dismount. Dismounted cavalry are, for the time being, infantry, and no longer mobile or dangerous in their own rôle. It would be sound tactics, therefore, for the side which is weak in this arm, to endeavour to hold up the enemy's cavalry by rifle fire and then compel them to dismount and join issue in a protracted fire fight, just as the Japanese did with the Russians. The possession of machine guns by the independent cavalry will enable them to do this without sacrificing their own mobility in the process, and as we are terribly weak in cavalry, surely we of all nations can least afford to neglect anything that will enable us to keep even a single squadron mounted.

Horse artillery requires an escort, and thus more men are taken from the precious squadrons for a service for which

machine guns are admirably suited; indeed, it is a recognised principle that machine guns can confidently await the attack of cavalry under any circumstances.

The side weakest in cavalry will also find himself opposed to superior numbers in the cavalry collision, and can scarcely expect much assistance from his artillery to equalise matters, as they will probably be dominated by the superior artillery of the enemy; but the divisional commander, who has the four batteries of machine guns of his four brigades, is in a very different position, and skilfully handled, he may be able to completely surprise the enemy from positions on the flanks, preventing the out-flanking movement which must inevitably follow superiority in numbers, while the fire effect of 24 guns on closed masses of cavalry preparing for the "Charge," should be so decisive and overwhelming as to render it possible for a much smaller force to snatch a victory in the face of great odds.

The Germans say in their Official Text Book:—"Horse Artillery and machine guns, by reason of their fire, enhance the offensive and defensive powers of cavalry. In defence and against unexpected opening of fire they form the most effective portion of the force. In the advance of cavalry against cavalry, the machine gun detachments must take up their positions as soon as possible, so as to support the first deployment, and then the attack of the cavalry."

"A position will be selected most advantageously well to a flank of the advancing cavalry, since from there a continuation of fire is rendered possible up to the moment of the 'Charge.'"

In reconnaissance they are hardly less valuable, and are used to break down resistance at small posts, defiles, etc., which are occupied, or *vice versa*, to stiffen the opposition made by the cavalry at such points, and do away with the necessity of dismounted action as far as possible.

In pursuit their utility is obvious, and while they pound the enemy on the flanks, and press him into making a stand, the cavalry are free to cut his line of retreat.

In covering the retirement of cavalry in face of a superior force or after a repulse, they are invaluable, as they can completely stop pursuing cavalry and hold on to a position until the last moment, and then retire with the rapidity of cavalry itself, only to stand again at the next opportunity.

Owing to the weakness in numbers of the Japanese cavalry, and the preference shown by the Russian cavalry for fighting on foot, the examples of the use of machine guns as an aid to mounted action in the recent campaign are very few; but the lesson of the war is summed up by Colonel Zaleski in the following words:—"The adoption of machine guns—even their addition to squadrons, cannot be carried out too rapidly, and this weapon would now appear to be indispensable to cavalry."

¹ Internationale Revue Armies et Flotte.

On the 8th June, 1905, at Nauching, General Samsonov had two cavalry regiments and one machine gun battery. During dismounted action these machine guns were placed in the firing line, two in the centre about 100 yards apart, and one on each flank, some 400 yards away. The firing line fell back, leaving the machine guns to hold the line alone. The Japs advanced to within 300 yards, and heavy artillery fire was directed against the machine guns, but as the latter were well posted, and their positions could not be accurately ascertained, they continued to hold their ground for nearly three hours, when the Japanese abandoned the attack and fell back.²

The 3rd Cavalry Regiment, covering the right flank of the Japanese army during the battle of Wa-fang-kow was seriously pressed by three Russian battalions and one battery. General Akizma's cavalry brigade came up, and it was chiefly owing to the excellent work of the machine guns that the Russian force was brought to a standstill.

A Russian infantry battalion retreating across the Taitsi river was almost annihilated, being overtaken by a Japanese cavalry regiment, accompanied by machine guns, which swept the bridge from end to end, and for the first time in this war machine guns were used with decisive effect.³

The golden rule for machine gun tactics is: *Conceal your guns, utilise cover, and operate by surprise, for surprise is the essence of tactical success.*

In conclusion, let us see how our own organisation and training can be improved to meet modern requirements. For what purpose do we require machine guns? I think the answer is two-fold:—

1. For savage warfare and small expeditions.
2. For a great war against a civilised enemy.

The question is, therefore, what organisation will suit these two different conditions best? By our present organisation two guns are attached to each regiment of cavalry and battalion of infantry, and I trust I shall be able to show the necessity for organising machine guns in batteries for the purpose of training, and to enable them to be used as a great reserve by the G.O.C. The late Colonel Henderson said of the Volunteers in Mexico: "The ideal of the battle is a combined effort directed by a well-trained leader; as individuals they fought well, as organised bodies capable of manœuvring under fire and of combined effort they proved to be comparatively worthless." We may say the same of our machine guns. We can scarcely expect to obtain a high standard of tactical training or organised bodies capable of manœuvring under fire and combined effort, from the regimental subaltern and his two guns left absolutely to his own resources. It is therefore absolutely essential that the machine gun section commander should be a subaltern of not less than

² Captain von Beckman.

³ Standard correspondent.

three years' service, especially selected for his keenness and efficiency and self-reliance, who has passed the examination "C" for promotion, and who holds the special machine gun certificate from a School of Musketry. A "destroyer" in the Royal Navy is commanded by a very junior officer, but he is most carefully selected for similar qualities to those I have just mentioned, and is in addition required to possess the necessary professional qualifications; consequently it is a command much sought after, and competition enables the authorities to appoint the pick of the Service, and thus obtain efficiency where efficiency is the essence of successful employment in war. The best, and nothing but the best, is essential to the successful employment of machine guns in war, and the necessity for obtaining the very best officers as section commanders is so great that I am inclined to doubt the utility of having machine guns at all if they are not commanded and handled by those who are in every way expert in their use.

It is further necessary that machine guns should be organised in batteries in peace time and trained under a senior officer for combined effort in war, and I think it will be admitted that such organisation and training would vastly increase the efficiency of machine guns, while it would in no way prevent the two-gun section from being employed as at present as a separate unit when advisable. My suggestion is this: When a regiment or battalion is brigaded with others, either for administration or training, the six or eight guns should be formed into a battery under the command of a selected field officer, who would be solely responsible for their peace training and efficiency, and who would command them on manœuvres and on service; there would be little or no innovation in this, as signallers are now trained and commanded on similar lines under a divisional signalling officer.

Conclusion.

Given a suitable mounting, capable of great mobility, of a pattern that can be used lying behind cover, and organised and trained as above, the G.O.C. will have a splendid reserve in his hands for use at the critical moment of a fight, as mobile as cavalry, in fire action more powerful than infantry, having the enormous advantage of occupying in action the smallest possible front, yet capable of hailing a storm of some 10,000 bullets a minute with a maximum of accuracy and concentration. With our small Army based on the system of voluntary service, we of all nations can least afford to neglect an arm which gives such enormous fire power in proportion to numbers.

APPENDIX.

Experiment in Indirect Fire.

The following is an extract from an article by First-Lieutenant A. E. Phillips, of the 10th Cavalry, from the *Journal of the United States Cavalry Association* for July, 1909:—

"To determine how many, if any, of the bullets from the machine gun would strike troops in front of an assumed 'hill,' over which the gun was to fire, canvas frames were used to represent such objects, the targets being concealed from view.

"The target consisted of a strip of target cloth 6 feet high and 15 yards wide, along the bottom edge of which is pasted a row of 15 kneeling figures with an interval of a yard from centre to centre. Across the target and parallel to its top edge is drawn a narrow black line tangent to the tops of the heads of the figures. Value of hits on any figure = 5; value of hits on the cloth below the line = 3; value of hits on the cloth above the line = 1. Canvas frame, 8 feet high, placed 200 yards in front of the gun. Rapid fire:—

FIRST EXPERIMENT.

Range 800 Yards.

No. of shots.	No. of Hits.			Total.	Remarks.
	Figs.	5's.	3's.		
30	5	10	12	22	Line of sight was 5 feet below obstruction. All shots over.
30	8	10	9	19	

SECOND EXPERIMENT.

Range 1,000 Yards.

No. of shots.	No. of Hits.			Total per cent. of figs. hit.	Remarks.
	Figs.	5's.	3's.		
30	9	11	4	60	Line of sight was 3 feet below obstruction. All shots over.
30	12	17	7	80	

THIRD EXPERIMENT.

Range 1,200 Yards.

No. of shots.	No. of Hits.			Total per cent. of figs. hit.	Remarks.
	Figs.	5's.	3's.		
30	2	2	5	13	Line of sight was 7 feet below top of obstruction. All shots over.
30	4	5	13	27	
30	8	11	9	53	

"It will be noticed that no 'i's' were made. Assuming the height above the ground of the average mounted soldier as 8 feet, had a troop of cavalry mounted been 200 yards in front of the machine guns in the third experiment, the line of sight would have struck about the backs of their horses, and all bullets would have gone over the riders with at least 4 feet to spare, as proved by the experiment. . . . The troop mounted could have moved forward to within 100 yards of the target, and would not have been struck by the bullets."

Colonel H. DE B. DE LISLE, C.B., D.S.O., 1st (Royal) Dragoons:—There are two points in this very interesting lecture which I think are of great importance. The first is with regard to the question of ranging. I understood the lecturer to say that you can range with a machine gun in a similar way that you can with a fire hose. You can do that up to 1,000 yards; but my experience in Africa was that over 1,000 yards you could not range because you could not see where your shots went. I remember on one particular occasion, on a light loamy soil which had lately been ploughed, after the range had reached between 1,000 and 1,200 yards, even with the most powerful field glasses we could not tell where the shots were going. That I think is the great disadvantage of the present machine gun. After the South African war I advocated that the battery should be composed of a pom-pom combined with machine guns, because the pom-pom we found was the very best means of ranging. You can find out the range with a pom-pom in a shorter time than with any range-finder yet invented. Artillery officers always tell me that climatic conditions would make it very difficult for the machine gun and the pom-pom to be so set that a range of one would equal the range of the other. On that I am not prepared to offer an opinion. What I wish to emphasise is, that over 1,200 yards you cannot trust to your view to find the range because you cannot see where the shots are going. There is one more point in connection with the lecture that I want to bring out. The lecturer said that the mobility of the machine gun mounted is equivalent to cavalry. That is not quite right. In the past year I have tried many experiments with machine guns, and I have found on manoeuvres that when a machine gun is put on a pack saddle suitable for a horse it gets out of order in a very short space of time owing to the rough action of the horse, but when it is put on a mule it is not so. We find that mules can accompany a brigade on manoeuvres provided the pace is not more than five miles an hour. I consider that the greatest mobility that you can get out of machine guns mounted on mules is five miles an hour, and the distance is limited to about ten miles at the outside without a halt. Mules cannot move over broken country at a rate greater than five miles an hour, and that I think is the fastest pace at which you can expect machine guns to accompany the cavalry.

Major E. SHEARMAN, 10th (Prince of Wales' Own Royal) Hussars:—I should like to say a few words with regard to the use of mules for the transport of machine guns. I gather that the lecturer was rather severe in his criticism of mules so far as their mobility is concerned. Those who have served in India and have seen the manoeuvres with mountain artillery realise that mobility is dependent upon topographical conditions, and that the mule in this respect is a most admirable animal. At five to six miles an hour the mule can keep up with the cavalry, and that pace will not often be exceeded in a mountain campaign. Therefore

I consider the mule is a most suitable animal for the transport of machine guns in some countries in which we have to fight. As regards what the lecturer said about a Maxim gun being a small target, it is true it is a small target in comparison with the volume of fire it emits, but at the same time it requires two or three men to manipulate the gun, and that is a large target compared with the space occupied. From what I have noticed on manoeuvres, machine gun detachments have not taken up the best positions. The peculiar report that the Maxim gun makes in action draws the attention of the hostile forces to it, as the lecturer remarked, and consequently a volume of fire will be directed upon it. Therefore we may assume that the casualties which will occur in the machine gun detachment will be great. I think one of the most necessary things is that there should be a reserve of trained men to replace the high percentage of casualties which will undoubtedly occur. What the figures are I do not know; perhaps the lecturer can tell us what the percentage of loss amongst the machine gun detachment has been or is likely to be, because it is a point that requires consideration.

Captain C. A. L. YATE, Yorkshire Light Infantry :—As I was present throughout the siege of Port Arthur, where the employment of machine guns was a conspicuous feature, and as I have also recently returned from the manoeuvres of a French Army Corps, where I have had opportunities of seeing the employment of machine guns, I should like to say a few words about them. The lecturer spoke about the organisation of machine guns in sections under subalterns, their concentration in larger units for the purpose of instruction, and suggested that "when a regiment or battalion is brigaded with others, either for administration or training, the six or eight guns should be formed into a battery under the command of a selected field officer, who would be solely responsible for their peace training and efficiency, and who would command them on manoeuvres and on service." It may interest you to hear that the French, who adhere most rigidly to the section organisation under subalterns, are in the habit of combining the three battalion sections of a regiment for instruction in barracks under a captain, but they make a point of not doing so in the field. I spoke to several officers in charge of machine guns, and they all said that even in cases where a good many machine guns were placed for tactical purposes at the disposal of a higher commander it was his habit to employ them in sections, widely dispersed, leaving the subalterns complete control as far as fire tactics are concerned, the reason being that they are afraid that a larger number of guns than two will disclose their positions if concentrated. Therefore, by the words "command in the field" I should certainly make it clear that this simply implied administration and disciplinary purposes, and not the actual conduct in battle. Then the lecturer also mentioned the undesirability of the officers in charge of machine gun sections being left to themselves, which means, I presume, without proper instructions. On the other hand, I have noticed this year a tendency to tie them down too much. I have seen machine gun officers reprimanded for getting too far away and working too much on their own. I venture to think that, in addition to concealment and suddenness of action, enfilade or oblique fire is of great importance with machine guns, and if you are to get that you must allow the machine gun commanders to get far away from their units, to enable them to take up positions where they can obtain the enfilade or oblique shot. I saw an instance at the French manoeuvres of a subaltern who left his regiment, and who was employed more than

one and a half miles away. He was given an escort of a company of his own regiment, which he did not stick to, but left it behind in the village, whilst he came into action some distance away, very near a position occupied by a different regiment. If we want to get the maximum efficiency from machine guns I think we must give the machine gun officers instructions at the beginning of the day in the same manner as to other officers commanding detached forces, and after that leave them a perfectly free hand. This presupposes considerable knowledge and skill on their part, but with proper organisation and training we shall be able to ensure that they have it. During the Russo-Japanese war I noticed in many instances that the greatest effect was always produced by enfilade fire. There is one more position where machine guns are of the greatest utility. The lecturer spoke of their use in covering retirement—how they can remain to the end, then limber up suddenly and disappear. I remember reading of an instance at the Battle of Mukden, where the 10th Japanese Division was left in a disordered condition after capturing a position, and the only means by which the Japanese were enabled to hang on to the points they had won was that the machine guns immediately came into action. This seems to me to be an instance in which machine guns can be particularly useful. The firing line, after a long, exhaustive attack, will be scattered and demoralised, while naturally their fire will be erratic, but a machine gun detachment coming up at the moment and delivering a steady fire will have a tremendous effect in enabling the troops who have won the position to hold it, and to complete the discomforture of the men who have been driven out of it.

III Captain F. V. LONGSTAFF, 5th Battalion the East Surrey Regiment:—I am firmly convinced that in order to get beyond generalities different tactics must be used for different terrains. I shall take the terrain of Southern England, more especially enclosed land where scattered trees cut up the view. As to the target, for the sake of example, groups of men standing because they think they are out of sight, or a body of men who have advanced too far before extending. These are always fleeting targets which require a highly trained personnel to wipe them out. For the Territorial Force I do not think fire should be opened beyond 600 yards. The sergeant and corporal each with their field-glasses must not only look on the ground for the strike of the bullets, but also at the hedges, fences and trees. Once the strike is located, then, by means of the elevating screw, the target should be found without delay. In such enclosed country I think the best tactics would be "Fire on every suitable target contained in the firing line told off to your battalion." The greatest temptation an officer has to overcome is firing at an unsuitable target. He must train himself to stand aloof from the firing, with his horses hooked in but ready for action, for hours at a stretch waiting for an opportunity. I venture to think that for more than half the time of the annual camp the gun section should not march out with the battalion, but be sent along any country road under its own officer. The gun officer then has a chance to act on his own responsibility; the sergeant and corporal each in command of a gun are also forced to think and act by themselves on the officer's orders. Another scheme I found successful. One gun's crew took up the position of an

¹ In the unavoidable absence of Captain Longstaff his remarks were read by the Secretary.

enemy (without the gun) while the other executed an approach and opened fire on them. The crews then changed over, and this was carried out several times on the same ground, so that the gunners got to making the best use of the ground. The gunners were also exercised during the above at casualties. At the Aldershot Divisional manoeuvres this year, pairs of posts with circular red discs two feet in diameter were used to show the umpires what each gun was firing at. I am glad to see that in A.F. B 2050 issued this autumn the standard of training required of machine gunners is laid down. According to this standard a first class machine gunner must be a man of many years' service in the gun section, and an expert in many sections of military training.

T. MILLER MAGUIRE, M.A., LL.D., Barrister-at-Law, Inner Temple : I will not detain you long, but there is one remark in the letter of Captain Longstaff which has brought certain matters to my memory. I notice that all the historical examples quoted in the lecture have been from the Russo-Japanese campaign in Manchuria. It so happens that I had to again study the history of that campaign very carefully in the last few days, and I can confirm all that has been said in regard to the very striking use that was made, on every possible occasion by both armies, of the machine gun during that war. Captain Longstaff's remarks reminded me of what occurred during the Franco-German War, a point to which neither he nor the lecturer have referred. Captain Longstaff urged the necessity of studying the use of machine guns in such enclosed countries as the South of England. Of course there would not be very many such localities to study in regard to historical examples, but my friend Colonel De Lisle and I just mentioned to each other what occurred in the Franco-German War. Napoleon III. had introduced the mitrailleuse as a kind of mysterious gun which would shatter the German artillery. Before the War had lasted very long it was proved that, as against artillery, the machine gun would not do much, indeed the rough verdict of the early part of the War was unfavourable to the novelty. The Prussians, previous to the 1870 campaign, tried both the Montigny and Gatling mitrailleuses, but rejected them as useless for field purposes, at the same time admitting their utility for fortresses, ditches, defence of entrenchments and defiles. It was soon, however, admitted on all hands that Napoleon III. was mistaken, and that the machine gun would never supersede either small arms or artillery, and yet had an important rôle of its own. We are all agreed so far, and I need not dwell upon the point. Accordingly we do not find any use of the mitrailleuse in the big battles. I cannot remember any great use of it at Worth, or Spicheren, or Vionville, or Gravelotte, or Sedan. But when the terrain was transferred to a close country of a character such as would be the theatre of a campaign in the South of England, then the whole situation was changed. It is rather strange that this point has not been mentioned in the discussion, especially as our recent military reorganisation is based on the admitted probability or possibility of an invasion, and I do not know whether the lecturer will agree with what I am about to say, that the machine gun would be invaluable in such an event. The mitrailleuse was used very frequently and decisively in January, 1871, against the advance of Prince Frederick Charles from the Loire in the direction of the Huisne, and in the fighting between Vendôme and Le Mans. I do not think that Chanzy's remarkable campaign is sufficiently studied, but it is almost an exact analogy of what would necessarily occur in our own country in case of invasion

on a large scale. I do not think the recent grand manoeuvres of which we hear so much would teach us what we would have to do in the South of England. The Salisbury Plain purchase has had a very prejudicial effect on our tactics, yet I venture to recommend officers to discuss this subject, and as, if we have our "voluntary system" very much longer, we may be called upon to defend the South of England, to follow up what happened in that campaign with regard to the use of the mitrailleuse. It produced no great effect in the big fighting, but was very valuable indeed in the hedge fighting and village fighting. I have only time for one out of many illustrations which the Royal Artillery published for me in 1894 as to the value of machine guns in such a district. "The whole German Army on January 7th passed into the district between the Loire and Sarthe, which consists partly of small plateaux, partly of a labyrinth of ridges, which not infrequently attain a relative height of 200 feet or more. Well filled rivers flow with rapid course through valleys which are generally broad and with steep sides. The entire country is covered with the densest cultivation of long standing growth, with vineyards, orchards, and vegetable gardens. The villages consist mostly of a number of isolated and solidly constructed farmsteads, among which are interspersed châteaux, surrounded with extensive park enclosures and copses. Owing to the extensive sub-division of the land customary in the country, every property is surrounded by hedges, ditches and walls. There are consequently numerous positions and isolated points at which even moderate troops could defend themselves behind good cover. *Although the superior effect of the Chassepôt here ceased to avail, the mitrailleuses were in their true element, and became a dangerous weapon in the narrow passes.* Even the commanding points seldom offer a free view to the assailant. He must abandon all idea of any planned deployment of large bodies, especially of cavalry and artillery. In the actions before Le Mans the latter could seldom be counted by batteries, mostly only by divisions or single guns. The action of the cavalry was limited to the roads, and the infantry had almost exclusively to bear the brunt of the struggle." Colonel Hozier describes the topography as being very similar to that of Kent and Surrey. I entirely agree with the fine spirit of the lecture. I always find now when I go to military lectures that every lecturer wants the "best possible" men for his own arm of the Service. General Grant, when he was asked about the new development of the Federal Cavalry in 1864, insisted that the very best men in the United States should command them, and secured Sheridan accordingly; and now we find that the "very best men" in our army are to look after the machine guns, which are going to be as invaluable to cavalry in the coming days as the horse artillery guns were in the past. With all these sentiments I cordially agree, only I hope the gallant lecturer will leave some of the good men—especially if we have not obligatory military service soon—to us of the infantry. With this caveat I have nothing more to say except to express admiration for the interesting and instructive address he has given us.

Lieutenant H. I. MONEY, 1st Gurkha Rifles:—May I be permitted, Sir, to ask a question with reference to the firing of the Maxim gun on manoeuvres with blank ammunition? I do not know whether we have in the Maxim guns at home any sort of attachment to the muzzle which gives the same effect on the recoil as there is when firing ball, but when I was with my regiment in India we had nothing of the sort six months ago. The consequence was that when we went on manoeuvres the

General said that we were to have a drum accompanying the Maxim guns, and that the drum was to be beaten so as to give the effect of "rapid fire." After the guns stopped firing, on occasions the drummer got lost and would start beating his drum about a mile away, so that one never knew where the Maxims were at all. This occurred at the manœuvres in the Punjab the year before last. I noticed lately at the German manœuvres that they had a muzzle attachment, and that the effect of firing the guns with blank under these conditions is just the same as firing it with ball.

Colonel APPLIN:—I have had some experience with regard to transport, especially with the mule, and of all the damnable animals I have ever had to deal with I beg to say the mule is the very worst. I have had some experience of it in the Crimea, China and other places. If you put a Maxim gun on that animal and then fire a gun he will probably go straight towards the enemy—you will never see him again. We had some experience of that in South Africa; mules on several occasions suddenly departed from our side and left the guns absolutely without ammunition. For heaven's sake do not use a mule or donkey or anything of that kind—we have quite enough of them already. There is no animal which is more obstinate, and therefore my advice is that, whatever you do on active service, do not employ the mule.

Major MANSELL, late R.A.¹:—Attending by chance Captain Applin's interesting lecture on the 6th October, I am only now in a position to submit a few remarks upon the points raised by him, and the criticisms subsequently made. I fully agree with what was said by the lecturer that England, with this class of weapon, has in the past shown the way to other nations by adopting, in its Service, the Maxim gun, but it is very unfortunate we have not retained the lead thus given, and allowed other nations to outstrip us in acquiring newer and lighter Maxim guns with improvements in mountings, sights, etc. Most of the speakers based their remarks upon experience gained with the present heavier Service weapon, which is an older type, and which on a Mk IV tripod mounting weighs altogether 108 lbs.; and the greater part of these criticisms would not have had to be made with the newer and lighter type, a model of which was shown on the platform, and consequently it will be to the point to give herewith some of the recent improvements. This latest Vickers gun weighs less than 26 lbs., and is fired from a tripod, adjustable for firing by one man only, either lying down, sitting, or in any intermediate position, and it represents consequently a much reduced target. The tripod only weighs 34 lbs., and thus the combined gun and mounting now weigh together what the older gun weighed alone without mounting. The newer model is also provided with a condensing apparatus for doing away with any visible steam, and quite recently improved sights with a light gun have considerably added to its rapidity in laying and obtaining the range. The lecturer said that the leader of the machine gun detachment should be very well acquainted with his weapon; the makers also affirm that from their experience and from the reports received from the many countries they supply, it is a great advantage for every man in a detachment to be as efficient in the working of the gun as the sergeant himself. One instance of well instructed detachments comes to

¹ The following remarks were forwarded by Major Mansell subsequent to the Lecture.

us from the Battle of Mukden, where 16 Maxim guns, used eight at a time, repelled seven fierce Japanese attacks; each firing lasted only a few minutes, and during that time the eight guns not actually firing were being overhauled, cleaned, oiled, etc., by the detachments; the 16 guns fired altogether nearly 200,000 rounds, and at the end of the day every gun was in an excellent condition. In the list given by the lecturer of the different machine guns adopted by various countries, some corrections would appear to be necessary. The following countries should be added to the list that use the Maxim gun, viz.:—China, Japan, Bulgaria, Servia, Argentina, Chili. The lecturer leaves out the Rexer gun, as a weapon fired from the shoulder, but gives the Madsen gun—these two guns, however, are practically alike. In connection with the remark made by Colonel De Lisle complaining that after a few miles transport on a horse during manoeuvres one of the machine guns was on that account found in an unserviceable condition, I cannot help thinking that this requires further investigation, in view of the long and severe travelling trials successfully carried out with this type of gun in all countries, and over every nature of ground, and with every sort of transport. In one instance last summer a mule, loaded with a Maxim gun, rolled down 250 yards of a very steep side of a hill in the Alps; only one of the sights was slightly bent, otherwise the gun was quite serviceable, and it was able to fire immediately a series of rounds. Surely such a gun, if correctly assembled and packed, would not have been put out of order by a few miles' galloping on a horse. At manoeuvres, to teach the correct technical use of machine guns, and to practise detachments with the firing and mechanisms of their weapon, and the supply of ammunition, it is quite obvious that the muzzle attachment the Germans use is more practical than the beating of a drum as used in the Indian manoeuvres; these attachments require a special blank ammunition, the powder of which will completely burn in the gun and work it, which is not the case with our present Service blank ammunition. The provision of such ammunition is not a difficult matter, and the advantage gained would be very great, and would enable our guns to fire at manoeuvres like those seen by Lieutenant Money in Germany.

Captain APPLIN, in reply, said:—Colonel De Lisle emphasised the difficulty of ranging. I said in my lecture, "Provided the range and the ground are suitable." I meant if the range is short and the ground dry and dusty, otherwise it is quite impossible. As to what has been said about the mule, I remember that some years ago in South Africa, when I was bringing in a convoy for Colonel De Lisle, I was told he had arrived on the camping ground. I presently came out to see him, and said to one of the men, "Where is Colonel De Lisle's column?" He replied, "You see that dust over there? That is Colonel De Lisle's column." If Colonel De Lisle had mules then he at any rate was making them move along. I know that Colonel De Lisle has a way of making animals move faster than anybody else I have ever seen; so that I take with a grain of salt what has been said about the mule being a mobile animal. It is mobile when employed in the country to which it belongs, such as South Africa, especially when it is properly handled by men who thoroughly understand the animal. But I am sure most of those who are present to-day will agree with me that in the case of the ordinary British soldier our experience on manoeuvres is that the mule often pulls one way and the man the other. With reference to what has been said about horses, you will find a note in the appendix giving the experience which has

been obtained in the United States cavalry. The United States cavalry mount their guns on horses, and find them very mobile, both during training and on active service. The guns are carried at full gallop on the horses, but nothing is said about breaking down. With regard to what Major Shearman said about the size of the target offered by the machine gun, I think you must all admit that it does form a very small target when it is worked by two men only, one man firing and the other man assisting. Two men cannot be called a large target. As to the result of finding that target, I have already said that if the machine gun is discovered it is very quickly wiped out. We need not go into the question of the percentage of losses. If accurate fire is concentrated on it, the machine gun is lost, and that is why I advocate alternative positions, and moving it as soon as it is discovered. Captain Yate made some very interesting remarks, but I should like to mention that I never proposed that the guns should be employed in batteries. My idea was to brigade them in batteries in order to train them, and to enable them to be used as a mobile reserve. If two sections from each battalion come up to the general officer and say: "Here we are, and there are twenty-eight guns," and he has to give orders to each subaltern, it would be very awkward. On the other hand, if he has one machine gun commander, he simply gives the necessary orders to him, and two guns are sent here, two there, two to some other position, and so on. Captain Longstaff sent some interesting remarks, which time will not allow me to go into. One thing he mentioned which I particularly noticed was that the greatest temptation an officer has to overcome is firing at an unsuitable target. Perhaps I did not make enough of that in my lecture, but it is undoubtedly the case—that it requires a great deal of training to make a man refrain from firing at a target when it comes temptingly up within range, and wait for something better. Dr. Miller Maguire's remarks about enclosed country are very interesting. I am sorry I have no information here about the use of machine guns in enclosed country such as we have in England, and, therefore, I can offer no remarks on what he said. Lieutenant Money referred to the question of blank ammunition. It is absolutely necessary that the gun should be able to fire blank. It can fire blank, but I am not sure whether we are allowed to fire blank from it at present. There is no muzzle attachment issued now, and, therefore, we cannot fire continuously from it; we can only fire single shots. But the muzzle attachment is of very great advantage, and ought to be used. With regard to the "drummer," it struck me that he might be used to imitate the sound of the Maxim firing while the gun was being moved to another position in the meantime.

The CHAIRMAN (Col. W. N. Congreve, V.C., M.V.O.):—I think there can be no doubt that the subject of this lecture is one of great interest, and that it has produced a useful discussion. Captain Applin has gone very thoroughly into nearly all the points which can be raised with regard to machine guns. There are a few small matters of detail on which possibly I disagree with him, but they are hardly subjects for discussion here, and are really not germane to what he has said. I am afraid there is no doubt that, although we have had the gun longer than any other people in the world—we have had it now for twenty years—we have fallen behind foreign nations in every respect, both in thought, in mechanical devices, and in recognising the absolute necessity for making the workers specialists. The foreigners have given patient thought to the tactics of the gun, and have settled a definite policy with

regard to it. We have not; ours are still in the melting-pot. They have adopted a very light gun, under 20 lbs. in weight, I believe, telescopic sights, and the French have got some sort of attachment, which is a secret thing, by which they can control the rate of fire, a question of very great importance. We have none of those things. Finally they have recognised that it takes three years to make a machine gunner. We, on the contrary, owing to drafts and other exigencies, take the men for about nine months, and are lucky if we can get them for as long as that. Again, I am afraid our gun still goes to bed. It goes out and fires its course, and a certain amount of training is given; then it is put into oil and goes back to bed again. As long as that continues I am sure we cannot get the larger training which is absolutely necessary if we are to produce any good. No doubt this is due very largely to the discredit into which the Maxim gun fell in South Africa, but that was not the fault of the guns, they were put on high carriages and were worked in the firing line—an absolutely impossible position, where the gun could not live—and the result was exactly what one might have expected, they were perfectly useless and had to be abandoned; had we known as much about it as we do now different tactics would have prevailed. Then there also comes in the question of expense, which, however, is not a question for us to discuss here, as it is a matter of politics I presume; but besides these there is the apathy due to want of appreciation of senior officers, which is very largely to blame for the deplorable results we see at manœuvres and field firing. To go through a few of the questions dealt with in the lecture, deliberate fire is a thing with which Hythe does not agree. I am afraid I am rather new to it, and I have not seen all the experiments that have been carried out, but I understand that deliberate fire is not considered to be of much value, the reason being, we maintain, that you want fire to be a surprise, which we think deliberate fire would not be, and that you want bursts of fire for observation. Captain Applin says you can get that. I hope to try his system directly I go back, and I dare say I shall be converted. He uses it as a range finder to a certain extent; but it is absolutely necessary to have a range finder with the guns, with highly trained people to work it. We now have a one-man range finder, the Marindin, from which we hope much, and if we can get that I have no doubt it will be of great assistance. Then comes the question of pack *v.* limber, each of which has its advantages and disadvantages. There is no doubt about it that the foreigners, who do not make changes or innovations without very good reason, are generally adopting pack transport for machine guns. They recognise that it is slower and that you cannot carry so much, but at the same time they think mobility is increased, and as mobility outweighs all other considerations they are adopting it. One question that was brought up by one of the officers who joined in the discussion was the mobility of the mule. I do not know how the mule gets over the country. He may be all very well on open ground, but I think he would rather stick at fences. Therefore for myself I think I should put my guns on horses if I wanted to get the most from them. The question of the brigading of guns is a very large one, which has been more or less approved of for our army in the amendments which were issued in August. But at the same time they cannot recognise the principle of a permanent special brigade machine gun officer. I think myself until we do get that brigade gun officer it will be very difficult to get any improvement. It again comes back to the old question of expense. Captain Yate has spoken of how the French disperse their guns,

and no doubt it is very useful, possibly it may be the best way of using them at times, but it is as well to have all you can up your sleeve, and it has been proved from the war in Manchuria that there are occasions where the fire of massed guns, or guns working under the control of one officer, have the greatest possible effect. Therefore I think we want to practise it, because you cannot improvise it when war breaks out; it requires very careful previous training. The arrangement of signals, the communication between the various units, and the working of scouts cannot be done in a moment, and, therefore, must be recognised and practised in time of peace. At present it is not done universally, for it is left to the discretion of Brigadiers. Then comes the question of overhead fire. I have been told that in some of the actions in South Africa our own men were very much troubled by hearing the crack of the bullets over their heads, and in some cases officers sent back and asked that the overhead fire might cease. It seems to me, however, it must be a question of either hearing your own bullets or feeling the enemy's bullets, and the men will therefore come to the conclusion that they would prefer to hear their own. Overhead firing was proved to be of great value in Manchuria, and there is no reason why we should not do it, for our nerves ought to be as good as the Japanese or Russians. In the précis of the lecture it is stated that the margin of safety is 100 yards. That we maintain is small. We do not say it is not possible to fire over your own men's heads when they are only 100 yards ahead of you, or 100 yards from the target, but you have to take into account the barrels and the mountings will be worn, that the firers will be excited, and that, therefore, the same accuracy of fire may not be obtained as on the range. Firing on absolutely level ground at Hythe we reckon we want a 300 yards margin of safety before we can be quite sure of using overhead fire. There is one thing that Captain Applin has not referred to. He has spoken a good deal about the use of machine guns, but he has not told us much about how we are to meet them, that is to say how we are to attack them, to knock them out, or neutralise them. That, for the majority of us, is a greater consideration than the actual handling of the guns themselves. I think if a company officer comes to realise that a machine gun at a thousand yards can produce an absolutely annihilating effect on a suitable target he will appreciate how greatly his responsibility is increased. At present I am perfectly convinced we do not realise that. The way the guns are handled on manoeuvres, the way they are attacked, leads one to believe that people take very little account of them. Of course that is greatly due to the want of a muzzle attachment for blank firing. Lieut. Money referred to the drum beating. It is not an original idea. The Japanese use it on their manoeuvres; they have a tin full of stones, which make a fearful rattle when they are worked round, and they say it does very well. You must try and get something to make the enemy and umpires understand that machine guns are at work. At present half the mistakes in the training at manoeuvres are due to no one knowing where the machine gun is, and certainly not caring. It is very disheartening to a man who has taken the trouble to get to the best place if no one takes any notice of him or gives him credit for it. We are rather inclined to think that, owing to machine guns being so very vulnerable, if they are once discovered, to scattered infantry, and the very small result they will have against scattered infantry, that it is possible machine guns in the future may have more use in the attack than the defence, but without doubt they will make an organised disorder more than ever essential in an attack.

Captain Applin, as a cavalry officer, says he wants to keep his men on their horses, and he hopes he is going to get machine guns to take the place of dismounted fire. The Germans thought the same thing, but they found it did not act. They have had to recognise that machine gun fire is not sufficient, and that you must have dismounted fire—in theory, anyway, they do, but as a matter of fact I believe they do not practise it much. If we, on the other hand, do recognise the occasions when dismounted fire is of use, and train our fire unit commanders and men to a sufficiently high pitch, a pitch much higher than is wanted for infantry, we shall have great advantage over the people who do not practise it. Dr. Miller Maguire's remarks with regard to work in an enclosed country are very useful, but you must bear in mind that it is an extremely difficult thing to test. We can go and fire machine guns on Salisbury Plain, where we have a good large area, but there is no such thing as enclosed country where we can try it. We have, too, no muzzle attachment which will enable us to fire blank, and therefore we are very much at sea as regards the employment of machine guns in enclosed country. Whatever opinion there is on the subject must be theory. There is one thing that Colonel De Lisle mentioned about the pom-pom to which I should like to refer. The pom-pom no doubt is an excellent range finder, but the trouble is that it is so obvious. I think myself that machine guns are not going to be of very great value to us, except in exceptional cases, beyond an effective range of 1,400 yards. Within 1,400 yards the pom-pom ought to be spotted very easily by the enemy, and in that case your machine gun is knocked out before it can do any good at all. I daresay that is why the pom-pom fell into such discredit; it was served out to the cavalry, one of its chief merits being that it was supposed that it would be a good range finder; and the reason it has fallen out is because it was so obvious and so vulnerable. Gentlemen, I do not think I have anything more to say, but I can assure Captain Applin that we are very much obliged to him for his exceedingly interesting lecture, and I think we can all go away quite convinced in our minds of the truth of the American's saying which he quoted, that "the effectual handling of machine guns demands hard study and patient experiment."

RASPLATA.

("THE RECKONING.")

By Commander VLADIMIR SEMENOFF, Imperial
Russian Navy.

Translated, by permission of the Author, by L. A. B.

Continued from December JOURNAL, p. 1633.

CHAPTER X. (concluded).

SAILING OF THE FLEET ON THE 10TH AUGUST—THE BATTLE OF SHANTUNG.

AS soon as the day began to break the squadron commenced moving out of harbour. The *Diana* allowed all ships to pass her at her berth as guard-ship, and then moved out as the last at 8.30.

"Everything all right. Weather calm and everyone at his station," is noted in my diary.

To the eastward, lightly veiled by the morning mist, the *Shikishima*, *Kasuga*, *Nishin*, and a squadron of old cruisers (*Matsushima*, *Itsukushima*, and *Hashidate*), were in sight. The latter set off at high speed to the north-east.

At 8.50 a.m. the *Tsesarevitch* made the general signal "Clear for action." At nine o'clock came a further signal: "*The fleet is informed that His Majesty has ordered us to proceed to Vladivostok.*"

This latter signal was received by us with undisguised approval. "At last! A good man this Vityeft! No going back now!"

Our mine-sweeping flotilla had cleared a channel for us during the preceding days, and, so as to put the enemy on a false scent so far as possible, this channel lay in a different direction from the course we steered on 23rd June. This time we steamed from the anchorage almost exactly parallel with the eastern shore of Liao-ti-shan. We passed out into the open sea between our mine defences, which surrounded the cape on which stands the lighthouse.

At 10.30 the mine-sweeping flotilla was dismissed. It returned to Port Arthur, escorted by the gun-boats and the second destroyer flotilla. Their senior officer hoisted a signal, which I unfortunately did not note down. So far as I recollect it ran: "God be with you! Good-bye!"

When the *Otvajny* steamed past us with this signal at her masthead all hands came on deck and waved their caps. Everyone mentally said: "Good-bye"—*au revoir* would surely have been frivolous.

We were steaming in battle formation. The *Novik* and the first destroyer flotilla were ahead of the battleships, which, led by the flagship, were in single line ahead, and finally the cruiser division, from which, unhappily, the *Bayan* was missing. Just as the mine-sweepers had been sent home, something seemed to have gone wrong with the flagship's engines. She signalled: "Speed 8 knots."¹

That when breaking a blockade and in sight of the enemy!

The weather began to favour us. A light, low-lying fog came on from the east and north-east. Port Arthur disappeared from our view altogether; the nearest coastline was only faintly visible through the fog.

At 11.5 a.m. the *Diana* turned to S.50°E. in the wake of her next ahead.

As we were the rear ship, the whole squadron was now on the new course.

The fog hugged the shore; to seaward it was fairly clear.

At 11.30 we made out the outlines of an armoured cruiser and three light cruisers on the starboard bow; a little more to starboard of these a number of big ships, preceded by destroyers.

At 11.35 the vessels to the starboard of us steamed to south-west. Those to port of us appeared to be trying to join hands with the former. Our squadron increased speed, so that we had to go on 10 knots to keep up.

At 11.50 the flagship hoisted flag "K." This meant "Ship not under control." Again something wrong! We all stopped engines, and waited for the defect to be put to rights. Meanwhile the Japanese were quickly effecting their junction.

At last, at noon the signal was made to proceed at 15 knots. We did not keep up this speed for long. At 12.20 the *Pobieda* hoisted flag "K" and hauled out of the line. Again a delay! The enemy had already joined hands and formed line. At 12.22 our leading ships opened fire. We were steaming dead slow.

"This is our battle fleet—the flower of the Russian Navy!" an officer near me on the bridge was exclaiming in a voice choking with rage. I had not the heart to reprove him and say: "Hold your tongue, and do your duty." Might he not have replied: "Have the men who created this squadron done their duty?"

No, I could not find anything to say which would really have answered him. My own throat felt as if it were being choked by impotent rage.

¹ The *Tsesarevitch* had constant trouble with her engines. The "Forges et Chantiers de la Méditerranée" themselves admitted that an error had been made in the building of the engines. The company made new excentrics for the battleships, and despatched them to Port Arthur. Most unfortunately the war broke out just then, and the consignment never got beyond Shanghai.

At 12.30 the *Tsesarevitch*, which had for some time been gradually turning towards east, suddenly turned 4 points to starboard. The hostile destroyers had been moving about ahead of us, but a long way off. The Admiral had therefore become suspicious, and, as we found later, not without cause. Nothing was too insignificant for the Japanese, provided it offered the smallest chance of success. They had thrown out drift mines (without anchors) in the direction of our line of advance. The flagship's alteration of course saved the squadron from the danger of having to steam through this drifting minefield. All the same, we passed very close to some of them. The *Novik* (evidently by order of the Admiral) stopped dead, and allowed the whole squadron to pass her, signalling: "Attention—floating mines." Two of these drifted past us on the port side, at no great distance. (To be accurate, we steamed past them).

After we had passed this minefield, we resumed our previous course.

The enemy's main body, *Mikasa*, *Shikishima*, *Fuji*, *Asahi*, *Kasuga*, and *Nishin*, had been steering almost on a parallel course to ours for twenty minutes, and had fired at long range, 40 to 50 cables [8,000 to 10,000 yards], with long pauses between. At 12.50 the enemy turned about 16 points, approached us up to 30 cables [6,000 yards], and then steamed away.

It was an exciting moment, especially when the Japanese squadron turned short across our rear and concentrated its whole fire on our three cruisers at the end of the line, without our battleships being able to reply to it. Our regulations do not lay down any definite station in action for the second in command. The spirit of the instructions indicates that he is always to be where his presence appears desirable. On board the *Diana* it had been arranged, as most suitable to local conditions, that I should remain on the fore upper bridge. Here I could be seen from any part of the upper deck, and could also be called quickly if necessary. Moreover, I was myself in a position to overlook almost the whole ship. I could not help seeing if any projectile hit us, and could, without waiting to be sent for, run to the place where damage had been done. It will be conceded that the upper bridge was a capital post of observation. I saw everything.

The sea was boiling all round our rear ships. Of course we were also firing like mad. Our guns were roaring incessantly. To this was added the noise of the bursting shell. Clouds of smoke and gigantic columns of water arose all round us. What chaos! And yet this picture of the raging of elements let loose was beautiful.—I heard the call for stretcher parties, saw that blood was streaming on the deck; but this was unable to break the spell. These things seemed trivialities which could not to be helped. How tremendously sharp and quick is the

working of one's thoughts at such moments! A short cry, a gesture, suffice to explain all that requires to be told.

"The *Askold* [cruiser flagship] only hoisted flags "B" and "L." Immediately the cruisers went full speed ahead and spread fanshape to port. In this way they got out of their unpleasant situation, and were at the same time enabled to bring their whole broadside to bear.

I should just like to have seen how many elaborate signals would have been necessary to carry out this movement during peace evolutions. How long it would have taken, and what confusion there would have been in the end all the same.

Either fortune favoured us or the Japanese fired badly. On the whole, at least, we got off cheaply. The rear ship (*Diana*) got no direct hits. Our sides, boats, superstructures, ventilators, funnels, and masts, were riddled by small splinters; yet we had only two men wounded. True, I had seen the *Askold's* foremost funnel and the *Pallada's* starboard cutter each struck by a shell. But these ships suffered no losses in men, and had no serious damage. The first encounter had ended in our favour. When they had crossed our tail the Japanese turned again to southward. They steamed along on our starboard quarter and kept up a slow fire at long range, which only our battleships could reply to.

At 1.30 p.m. we (on board *Diana*) allowed the men to "stand easy" and drink their afternoon tea, but not to leave their guns.

Groups were formed on the upper deck, chatting with much animation. Laughter and jokes were heard on all sides. But there was nothing specially characteristic in all this.

"Are we now going to sleep until the enemy hits us over the head?" a young sailor was asking jocularly, and settled down snugly in a tarpaulin, with part of which he kept off the fierce rays of the sun.

"Don't talk nonsense!" came in a rough tone from an older man. "God hears everything."

Yet another small, but characteristic episode. As I was passing along the battery I congratulated the gun-layer of No. 15 gun—Malachow—on his Cross of St. George. Malachow, having been wounded, had himself hastily bandaged, and at once returned to his gun, to serve it as before.

It was strange to see how the eyes of this man, who had only quite a short while ago cheerfully looked death in the face, suddenly looked troubled. He stammered, half-confused, half-doubting: "Well, sir, if it is ordered——"

I felt annoyed.

"Who is going to order anything? Take it, you dunder-head; you have earned it by the statutes. Neither the captain nor I have anything to say to it. Your superiors don't make you a present of it. You can demand it; you can go right up

1 "B"—Increase speed. "L"—Steer to port.

to the Tsar with your demand. The law gives you the right to demand it."

All those around had become silent, and looked on, some with curiosity, some with unbelief, expressed in their faces. Apparently they were now hearing for the first time that the law stood above the will of their superiors. I walked on rapidly, and did not quite realise what I had done. Had I assisted discipline by my words, or harmed it?

Towards 3 p.m. we shaped course S.62°E. The cruisers were keeping on the port beam of the battleships at a distance of about 15 to 20 cables [$1\frac{1}{2}$ to 2 miles]. They were thus outside the range of "overs." We were steaming at a moderate speed, but had to slow down every now and then so as not to draw too much ahead.

Soon after three o'clock fire ceased altogether. The enemy's main body which bore abaft our beam were now nearly hull down, that is, we only saw their funnels and superstructure above the horizon. What was the meaning of this? Perhaps the Japanese were making good their damages. Anyhow, with our 12 to 13 knots we were advancing very markedly. Our road was clear. If only our battleships had been able to go the speed they possessed on paper!

In compliance with the flagship's signal we sent our men to supper.

Our column now approached those of the battleships. Semaphore messages were exchanged. Friends asked one another how they were. The answers we received from the battleships were reassuring.

One of our younger officers could not hold his tongue. "We seem to be in luck," he said.

He was silenced at once. Seamen are more superstitious than sportsmen. They dread above all such boasts as the above.

Meanwhile, the Japanese had put themselves to rights again, and had carried out what they had intended. What could it have been? Who knows the Japanese? They were once more chasing us.

At 4.15 p.m. the distance was 51 cables [10,200 yards], at 4.40, 47 cables [9,400 yards], and at 4.45, the battle began afresh.

As the cruisers were again within reach of "overs," they were ordered to resume their former station—20 cables [4,000 yards]—from the battleships. We turned 4 points to port, and when we had reached the distance ordered, resumed the fleet course. For an hour and a half we were now mere spectators of an action in which we could not in any way participate.

The Japanese cruisers,¹ and not only the old ones, but even the three "Greyhounds," and two armoured cruisers, also kept on the off-side of their main body. They, as it were, awaited the issue of the duel between the two main forces. The old

¹ *Toshino* no longer existed at that time.

Japanese ships, led by the *Chin Yen*, we could make out distinctly to the north, all the rest to the south-west.

For me, this was the hardest moment of the whole day. We had to look on whilst the others were fighting, without being able to lift a finger in aid.

I must here note that the Japanese shell, on bursting, produced thick, greenish-brown or black smoke. In the first place, every one of their hits could thus be seen distinctly; secondly, it gave one in the first moment the impression that it had produced some catastrophe. On the other hand, we could only make out the light, transparent smoke of the Russian bursting shell with binoculars, and even then only with difficulty. Our shell were loaded with Pyroxyline, or smokeless powder.

This fact was especially demoralising to the common sailor who, of course, knows little of the technical part of gunnery.

"Look! How our ships are catching it! The Japanese are hardly getting anything. It is as if they were charmed. The Goddess of Heaven has deserted us!" Remarks such as these I heard here and there amongst the men.

All binoculars and telescopes were turned on the enemy. All observers were asked to call out loud enough for all to hear, every time there was a Russian hit.

"There is no object in straining one's eyes. War can't be made without losses. There is no object whatever in looking at it. If any one is hit, it is the will of God," I said, as I walked along the battery.

But the spirits got worse and worse. I don't say that we were threatened with a panic. By no means. We were a long way yet from that. Our men had stood fire, and were determined to fight to the last. I only felt that everyone was devoured by the terrible thought: "Will our battleships be able to stand this fire?" They doubted this, and in battle doubt does no good.

Meanwhile, I was carefully watching the course of the action with my binoculars, and trying to judge of the value of our fire by estimating the "shorts" and "overs." I was bound to own that our gun-layers were not shooting worse than the Japanese. It even appeared to me as if in the long run our fire was more steady and was corrected better. I thought of the possibility of the battle being renewed on the morrow. If it continued like this, we should have the advantage inasmuch as we were saving up our ammunition.

In the proportion in which, in the course of the battle, the distance decreased, a certain very important advantage on the enemy's side was bound to tell more and more. The enemy possessed an abundance of secondary and light armaments, while a good third of all our 6-inch and 12-pounder guns and the whole of the lighter Q.F. guns had remained behind at the land front of Port Arthur's defences.

Moreover, it was incontestable that luck was on the side of the Japanese.

Of course the enemy concentrated his fire mainly on our flagships.

The funnels of the *Tsesarevitch* were hit by a large number of shell. (These hits were particularly easy to see.)

At 5.5 p.m. the *Peresviet* (flag of second in command) had her main-topmast cut in half, and at 5.8 p.m. the head of her foretopmast went.¹ These damages were of no importance in themselves, but everyone could see them. The shell which hit the head of one of the topmasts was really a bad "over," quite a bad shot in fact—bad, but lucky.

About this time the lashings of the main derrick on board the *Poltava*, which had been secured up and down between the funnels, were shot through. It came down to port with a loud crash. That also was of no importance. It could not even be called damage, as the derrick had to be got into this position whenever boats had to be hoisted in. But everyone who saw this accident from abeam was greatly impressed.

At 5.50 p.m. the *Tsesarevitch* suddenly turned sharp to port. In doing so, she heeled over so much that cries of terror were heard on board us, which reminded one of the foundering of the *Petropavlovsk*. It looked as if the ship was going to capsize.²

Happily, it had only the appearance. For a few moments every soul on board the *Diana*, myself included, forgot all about himself and his ship. Every eye was strained to watch what was now going on in our battle squadron.

At first the *Retvisan* [No. 2] followed in the flagship's wake. But her captain quickly noticed that the latter was only hauling out of the line on account of some damage. The *Retvisan*, therefore, not only turned back to the old course, but towards the Japanese. It looked as if she meant to ram the enemy.

The *Pobieda* [No. 3] continued on the old course. The *Tsesarevitch* turned a complete circle to port and broke through the line between the *Peresviet* [No. 4] rear flag and the *Sebastopol* [No. 5], exactly as if she also intended ramming the Japanese. Like the *Retvisan*, the *Sebastopol* also turned to the south, to avoid the *Tsesarevitch*, and the *Peresviet* did the same. The latter had apparently not made out yet what the flagship's intentions were and did not know whether her movements were intentional or were due to the ship not being under control. The *Poltava* [No. 6] continued on the old course.

¹ The reader will see later what a momentous part these lost topmasts played. The *Peresviet* could no longer hoist any signals.

² A Japanese (12-inch) shell had hit the conning tower of the *Tsesarevitch*, had destroyed everything inside, and killed every soul. The helm went hard over to starboard of itself when all connections were being smashed. This it was which made the ship heel over so much. She used to heel up to 12° if the helm was put hard over suddenly.

For a while it looked as if we were on the point of delivering the decisive blow. In my diary I find noted: "6.5 p.m.—Our battleships are rushing at the enemy in single line abreast." This note is struck out and the diary continues: "No, it looks as if they intended to resume the old course and the old formation. Present order of ships: *Retvisan*, *Pobieda*, *Peresviet*, *Sebastopol*, *Tsesarevitch*, *Poltava*." This is also struck out, and across the top is written:—"An error. No information whatever. They are steaming without any order."

The first note refers to the conditions which were the result of the *Tsesarevitch* sheering out of the line. The second I must have written at the moment when the flagship, steering with her engines, tried to get into the line between the *Sebastopol* and the *Poltava*. The latter was the rear ship, and had dropped astern a good deal. The third note represents the state of utter confusion, when no one knew any more who was leading the squadron or what course to steer.

The battleships then commenced to turn independently about 16 points.

I wrote:—"6.10 p.m.—Our battleships are steering N.W. 6.20.—We are steaming without any formation, course about W. We have made out the signal in the *Tsesarevitch*. The Admiral hands over command."

We saw no other signals.¹

There was no longer any doubt that Admiral Vityeft and his immediate successor and chief of the staff, Rear-Admiral Matussevitch, had dropped out. Was the next senior, Rear-Admiral Prince Uktomsky, still alive? The *Peresviet's* topmasts, it is true, were shot away, but could not the Admiral's flag have been displayed on their stumps, on the tops, the funnels, or any other point clearly visible? If the *Peresviet* flew no flag, it meant that she no longer had an admiral on board. Consequently Rear-Admiral von Reitzenstein, commanding the cruisers, became commander-in-chief. The battleships had either to steam without a leader, or the senior captain would have to take charge until they had formed up with the cruisers.²

When the *Tsesarevitch* turned so suddenly to port, the *Askold*, the cruiser flagship, had also turned to the north. Admiral Reitzenstein, however, noticed very soon that the

¹ Because the topmasts of his flagship were shot away. Uktomsky was obliged to display the signal for single line ahead on the rails of his upper bridge. Even the ships nearest to him did not notice it at once. This was the reason for our long hesitation.

² I beg the reader's pardon if my narrative is somewhat disconnected. I am endeavouring to keep as closely as possible to the short notes I entered in my diary every time something worth noting happened for reasons already given.

flagship was not carrying out a manœuvre, but simply hauling out of the line. As soon as he saw that our battleships were getting "clubbed" and that the enemy might take advantage of this, he resolutely led the cruisers to join the battleships. We at once understood his intentions. He wanted to join in the action with our forces, which, though weak, were fresh, and support the battleships, so as to give them time to reform.

Our battleships were steering about N.W. They were a mere rabble, one ship overtaking the other. Their fire was so wild, that some of their projectiles fell very close to us, as we hurried to their assistance.

The enemy's main body were crossing over in rear of our battleships, heading about N.E. His six armoured ships, in single line ahead, were keeping such good station, the intervals between the ships were so small and so regular, that it looked more like peace manœuvres than war.

But why was the enemy going away? Did the distance deceive us? Had he suffered as much as we? Perhaps it would only have required two or three lucky hits to throw him also into confusion. Why did he not come after us and try to destroy us? We were fleeing. Could he not, or dared he not?

I drove all these questions out of my mind by force. I felt as if a veil was before my eyes and I had only one desire: Let us get at the enemy quickly, so that we can fire ourselves and deaden that dreadful feeling that we are beaten, that we are flying.

I find it very hard to have to think this over once again. I will now proceed with my narrative in the sequence of events. I have noted the exact time by watch against all that now follows.

At 7 p.m. we closed up on the battleships on their starboard side. They were apparently trying to form line ahead. The *Retvisan* was the headmost ship. Again the question arose: Who is leading the squadron? Who is in command?

The *Askold* had the signal flying: "Single line ahead," but no distinguishing signal superior.

To whom was this signal addressed? Was it only meant for the cruisers, or was our Admiral assuming the chief command, because he saw no admiral's flag flying anywhere, and did he mean the signal to be "general," that is addressed to all ships?

The *Askold* was not waiting for the other cruisers to come up astern. She was going at her utmost speed and overhauling the battleships, just as if she meant to place herself ahead of the *Retvisan* as leader of the squadron. The latter assumption seemed likely. Presumably the captain of the *Pallada* thought so, too. He did not increase speed so as to follow the *Askold*, but even reduced speed, with the evident intention of allowing the squadron to draw ahead and then to take up his proper station astern of the last battleship. Our place in the battle formation was astern of the *Pallada*. We were waiting impatiently for further orders.

When the *Askold* had got ahead of the *Retvisan*, she hoisted the signal: "Keep in my wake," but again without a distinguishing signal, and turned to port. In this signal and in this manœuvre we read the determination to lead the squadron to seaward again, and against the enemy, who appeared no longer anxious to fight.

On the *Diana's* bridge exclamations of joy were heard. We were delighted at Reitzenstein's bold decision, but our joy was premature. Uncertainty and terror soon took its place. The *Retvisan* continued her course. The battleships did not follow the *Askold*, and the latter, with her signal still flying, steamed past us at top speed, like the Flying Dutchman. She steamed away to the southward, on an opposite course, to the rest of the squadron.

"So he is not in command of the squadron," the captain called out. "But we must follow him."

To overhaul the battleships and, like the *Askold*, to cross over ahead of them would have taken too long with our poor speed. The captain therefore unhesitatingly decided to break through the rabble of battleships.

Notwithstanding the sadness of the moment I could not help admiring the coolness and assurance with which our captain carried out this dangerous manœuvre.

All the same, we had waited a little to see whether the battleships would follow the *Askold*. This, and our getting clear of the battleships, took a good ten to fifteen minutes. When we had reached open water, we saw our Admiral already far to the southward in action with the enemy's cruisers, and getting out of sight. The captain was outwardly calm, but he stroked his beard nervously.

"How can I follow him with my 17 knots?" he was muttering through his teeth. Suddenly he made a movement with his hand which clearly expressed "Away with it!" and ordered: "Hard a-starboard."

The *Diana* turned to port and formed in the wake of the *Pallada*, which had never tried to follow the *Askold*.¹

At 7.20 p.m. we were attacked from the northward by the *Chin-Yen*, *Matsushima*, *Itsukushima*, and *Hashidate*. The *Kasuga* and *Nishin*, which had separated from the main body, were approaching from the eastward, and from the south came the "Greyhounds."

Well, for this company at least we were strong enough. They did not succeed in doing us any damage, and were obliged to beat a hasty retreat after a short but hot fight at no more than 20 cables (4,000 yards).

¹When Admiral von Reitzenstein reached Shanghai he reported by telegraph that he had hoisted the signal: "Keep in my wake," and gone on 20 and then 22 knots. Since then he had seen nothing of the *Pallada* or *Diana*—no wonder!

In this engagement the *Diana* was unlucky.

From my post of observation on the forebridge I saw a mighty column of black smoke rise up suddenly from the starboard side of the flying deck. I at once hurried to the spot. A shell had struck our Temperley transporter, which was lying on one of the funnel casings, and smashed it. The nearest ventilators, the funnel casings, and the funnel itself as well as the deck were riddled with small splinters, besides which the shell had destroyed a rising main of the steam fire service (this was really an advantage at the moment) and disabled seventeen men; five of these were killed outright (amongst them Sub-lieutenant Kondratyeff) and twelve wounded.¹

I cannot help mentioning with much pride how very well the service was carried out on board our cruiser. I ran down as fast as I could from the upper bridge to the upper deck, but by the time I had arrived everything needful had been done. I only saw the last stretcher disappearing down the officer's hatchway. The numbers of the gun, which had fallen out, had already been replaced from the corresponding gun on the opposite (disengaged) side. The gun had happily not been injured and was firing away energetically. Sub-lieutenant S—— had taken over command of the midship group after Kondratyeff's death. He had a dirty broom in his hand, which had been used to clear up the deck, and with this dreadful weapon he was chasing back under cover all those who had rushed over from the port side asking to be allowed to replace the killed and wounded, so as to have a chance of fighting themselves.

"All hands not told off, out of it!" I ordered, and came to his assistance. And those brave lads who had been fighting for the right of being able to get face to face with death ran back to their places quickly and obediently at the order of "Number one."

There was no need for me to make any further dispositions, and I could only approve what had been done. Then I went to the conning tower to report the effect of the hit to the captain. As I reached the lower bridge, on which the conning tower stood, I heard someone inside making a report to the captain. I heard the words: "Under water, just under the sick-bay," and the captain's sharp voice: "Report to the commander, quick."

"Aye! aye! sir, I hear!" I shouted as loud as I could in through the slit between the sides and roof of the tower.

¹ Next day we found amongst the wreckage the base of this shell stamped "18-cm." It must have been fired by either the *Kasuga* or *Nishin*, the only ships to carry guns of this calibre.

Then I bounded off the bridge and ran aft. "The boatswain's party to follow me." "Here, sir," replied the boatswain. "All present and everything ready."

It was only when the *Diana* went into dock to be repaired that we were able to ascertain the exact nature and extent of the underwater damage sustained in this action. But so that the reader may not be left to trust to his imagination, I will anticipate, and give a short description of it.

A 10-inch shell had hit the ship's side under water on the starboard side, at a very acute angle, in the direction from forward—aft, and from up—down. The hole was just between the edge of the armoured deck, where it curves down, and the ordinary steel deck above, on which stood the dispensary, sick-bay, and ship's office. The shell had torn open the ship's side in a fore-and-aft direction, and had made a hole about 17 feet long and $5\frac{1}{2}$ feet at its greatest width. It was thanks to the fact that the shell was travelling nearly parallel to the ship's side, that its whole force was expended in tearing open the ship's side. The armoured deck only leaked very slightly. But, above all, the light steel deck above the armoured deck had stood. This saved the ship, as it prevented water from penetrating into the inner spaces. Certainly this light deck could not resist the pressure of the water from outside for long. It had already begun to buckle and to open out in the seams. Still, we gained a few precious minutes during which we were enabled to strengthen and support it. We thus succeeded in confining the dangerous enemy, who had got in—the water—to a small space.

The first thing I saw below were the sick and wounded. The doctor and the sick-berth staff were carrying and leading them out of the threatened spaces. How great the damage was could be seen at a glance. The wooden planks forming the deck in the sick-bay and the adjoining dispensary were bursting with loud reports, and the water was squirting up through the openings. The seams of the steel deck underneath might give way any moment and open up the deck to the sea completely. The carpenter and such of his party as were stationed in the after part of the ship had at once started wedging down the deck. Some of the men who were only slightly wounded had assisted. When the boatswain's party arrived the work went on briskly.

¹ The boatswain's party consisted of a number of men under the boatswain, who were at the executive officer's disposal for putting out small fires and making small repairs in action. These parties had been considerably strengthened by Makaroff at Port Arthur, and equipped with every kind of appliance for stopping leaks. They were, moreover, specially trained in all manner of leak stopping. These parties were made up of the most experienced and able men. They included the best seamen, petty officers, boatswain's mates, and even specialists and engine-room ratings, such as divers, carpenters, sailmakers, blacksmiths, plumbers, etc.

Need I say how these men worked, with what care and with what zeal they handled the heavy hammers with which the struts were wedged up? Those wedges which were preventing the deck from bursting, were working directly against the sea, the mighty pressure of which had already opened the seams. It was a life and death struggle. The water-tight doors were closed, there was no exit upwards. If the sea should get the upper hand, then we should be the first victims. The starboard after 6-inch gun, just overhead, disturbed our labours a good deal. Every time it was fired the deck vibrated so much that the wedges became displaced. Repeatedly the struts threatened to snap, and we had to give them lateral support. Unconsciously one formulated the criminal wish: "If only this infernal gun were shot away." Suddenly it ceased, and our work proceeded more rapidly.

We succeeded.

"That will hold now!" exclaimed the carpenter in triumph, and tapped the deck with his foot, and the boatswain also said: "It's all right now."

I stopped their jubilations. "Don't say that, for Heaven's sake!" I cried. "You will only spoil everything by boasting."

How long had we been at work? The first impression was a few seconds. When I looked around, saw all we had done, and thought of the different episodes, I fell into the other extreme and thought we had been half an hour or more. I looked at my watch. It had got wet and had stopped.

The sick-bay, its bathroom, the dispensary, and the office presented a sorry spectacle. We stood on the bare steel deck. The wood planking had been split and torn away in the process of securing down the seams underneath. It lay about in untidy heaps. The water reached to our ankles, but what still came in could be kept under with such primitive means as buckets and swabs. It only trickled through the openings between the bent plates and through rivet holes where the rivets had been loosened or had dropped out. Some of these rivet holes were closed up with wooden plugs. Where there was a whole row of these rivet holes, we laid a cushion or a mattress over them, a plank over this, placed a strut between it and the beam above, and wedged down. This part of the work was not so bad. It was no longer a case of fighting the inrush of water, but merely keeping under what still found its way in. I left this part to the engineer in charge of the hull, and ordered him to flood some of the port wing-passages, so as to get the ship upright. I myself inspected the neighbouring compartments, asked those stationed there whether everything was in order, and then went on deck to make my report to the captain.

When I reached the upper deck I chanced to pass the starboard after 6-inch gun. Now I saw why it had ceased firing, so opportunely for us. It was being unloaded from the muzzle. The crew were trying to push the projectile out

again. In the heat of the action it had been rammed in too hard, and had stuck in the grooves of the rifling.

"What's up?"

"A projectile that hadn't been gauged, your honour," replied No. 1, almost crying with rage.

"It's an ill wind that blows nobody any good," I thought, and went on. Without this accident we should hardly have been able to do that business down below. I found the captain in the conning tower. My report, which was of course full of technical terms and explanations, would not interest the reader, nor be understood by the majority. I therefore omit it.

On the bridge I asked what time it was. It was 7.40 p.m. We were steering N. 30°W. I went to the end of the bridge and looked round. We were in no regular formation. It was neither single column nor two columns in line ahead. The *Retvisan* was the most advanced ship and we were the rear ship. Ahead of us were the *Pallada*, *Retvisan*, and another ship astern of the latter (perhaps *Pobieda*). Our ships were firing slowly at the hostile cruisers making off at their best speed to the N.E.

I pulled out my notebook and began making notes by the evening twilight.

"Now it is certain, quite certain," someone near me was saying. His voice shook with rage.

I looked round. A group of officers was standing on the bridge.

"What is it? What is so certain?" I asked.

"We are returning to Port Arthur. We are to make a solemn entry, to bury the squadron."

"Silence! The men can hear it," I said in a low voice, then added aloud: "To do what? What nonsense! We shall fill up with coal, ammunition, and stores, repair our damages, and then go out again. Can't you see how undecided the enemy's movements are? He has probably not fared any better than we. We have only 100 miles to go to Port Arthur, whilst he has 500 and more to Sasebo."

I need hardly say that I did not believe any of this myself. For me, too, this retreat looked like a funeral.

"Hold hard!" "Stop!" "Wait a bit!" came from all sides. In their eagerness the one was ever taking the words out of the other's mouth. If our damages are unimportant, then there is no need to return. If they are serious, how are we to repair them at Port Arthur? It is being bombarded from the land side and we should get fresh damages every day. Shall we ever get there at all? The enemy's torpedo craft was everywhere. But that is not all. We are now heading straight for Port Arthur, right through our own mines as well as those laid by the Japanese. God won't help us like on the 23rd

of June. With us it is always St. Nicholas¹ who is to do everything. We are to fill up with stores? Not only will they not give us any stores, but they will make us give up to the fortress what we have on board. We shan't be repaired in any case. We shall all be simply turned into marine infantry. Our guns will go into the batteries and the ship—why, she will be handed over gratis to the Japanese as a present, when the fortress surrenders. She will yet sail under Japanese colours. "With compliments."² Ha, ha!

The officers laughed nervously and spoke very loud and distinct, quite clearly for the captain's benefit.

The captain came out of the conning tower and stepped on to the bridge. His face, as usual, had a calm, almost indolent expression. Everyone became silent, there was the stillness of the grave around us.

"Our late admiral," the captain began to say quite slowly, as if he were reading it out, "informed us by signal that *His Majesty had ordered us to proceed to Vladivostok*. The cruiser admiral has gone south, flying the signal: 'Keep in my wake.' As soon as it is dark we shall separate from the squadron, and, if it be possible, go to Vladivostok. We must now lay off the courses and find out from the chief engineer how we stand for coal."

No one dared express his approval aloud, but it was plain how pleased everyone was.

The courses were laid off at once. The intention was to go round the south end of Quelpart Island and at such speed as to bring us to its eastern end by sundown. From there we were to proceed at our utmost speed, run through the Straits of Korea by night, and by the shortest route. If this succeeded we should be in the Sea of Japan at daylight, out of sight from the coast of Korea and from Tsushima. Then, by the grace of God, we should go on to Vladivostok. The chief engineer assured us that going at full speed for twelve hours, and the remainder of the time at economical speed (10 knots), the coal would last, in fact, there would even be something over for an emergency.

¹ Patron of sailors.

² In English in the Russian text.

(To be continued).

THE VON LÖBELL REPORTS ON MILITARY MATTERS IN 1908.

*Précis from the German by Lieut.-Colonel E. GUNTER, p.s.c.,
late East Lancashire Regiment.*

PREFACE.

A GREATER number of non-European Armies than usual are reported on this year† owing to their increasing development or to the political situation at the time. It is not possible to epitomise these. Increased importance is again assigned to completing all reports by reference to technical and other literature. As the illustrations published last year found favour, some—specially selected as little likely to be known to our readers—are again issued with this volume.

In the sketch of the Military History of the year under review, the principle of only giving the narrative in the most succinct form is adhered to, as, owing to the occurrences being so recent, their complete investigation is impracticable.

The Reports occupy 520 pages, as against 477 in 1907.†† A short description of the Australian Defence Force and a full one of our Indian Army are given in Part I., with Tables (p. 68), and a very brief account of the short campaign on the N.W. Frontier of India in 1908 is added to Part III.

The Editor again offers his sincere thanks to his fellow-workers for the great care which they have devoted to the tasks, often of great difficulty, allotted to them, as well as to all those officials, both at home and in foreign countries, who have given this work their very valuable support.

†i.e. in the original published in March, 1909.

††As usual in these Reports every detail of the British Army, especially in connection with our Territorial Force, is brought under review, so all German officers may closely study our organisations, etc.—E. G.

The Editorial Staff deplore the death of a colleague of many years' standing: His Excellency Lieut.-General Kühnze, of the Danish Army.

(Signed) VON PELET-NARBONNE,
Lieut.-General, Active List (German Army).††

Berlin, 1909.

PART I.

ORGANISATION.

AUSTRIA-HUNGARY IN 1908.

The Report gives an exhaustive account of the Austria-Hungary military organisation,† with tabular statements and full details. Our very limited space here makes it quite impossible even to epitomise this. No change has been made in the distribution of organisation of the Army Corps and Districts in consequence of the annexation of Bosnia and Herzegovina. One 1st Division only of 2 Brigades and 1 Squadron have been added to the strength of Infantry and Cavalry since 1907; but the Artillery has been increased by 8 H.A. Batteries, 31 Field, 11 Mountain Batteries, and 5 Fortress Artillery Brigades have been formed. It has been also reorganised. There are altogether 14 Brigades of Field Artillery. Each Field Artillery Brigade consists of 4-5 Regiments, each Regiment of 2-3 Divisions, each

††Since editing the above the much honoured General has been removed from the scene of his strenuous labours. He died at Charlottenburg on the 11th October, 1909, in his 70th year, and the German army mourns the loss of a brilliant officer. He entered the army in 1857 passed through the Staff College (*Krieg's Akademie*) and was employed for some years at the War Office. After holding some cavalry commands he was selected for the command of the 1st Division. He retired in 1895, but continued to work at Military Literature, in which sphere his talents and industry were conspicuous. His works on Cavalry were especially widely read and esteemed. His careful editorship of the VON LÖBELL REPORTS since 1902 was of great service to military men of all nations. He also contributed many articles and essays to the *Militär Wochenblatt*, the *Jahrbücher*, and other periodicals as well as to the *Tag*. His political writings also bore testimony to his energy and to the activity of his patriotic spirit, always devoted to his country's welfare.—E. G.

†This organization was tabulated in the JOURNAL for October, 1903, p. 1117, and there are few changes except in artillery as noticed above. For certain details see the JOURNAL for January, 1909, p. 120, February, 1909, p. 247, March, 1909, p. 397, April, 1909, p. 539, May, 1909, p. 659. In June, 1909, p. 807, "The Strategical Position as against Russia," in July and August, 1909, the Army Estimates, September, 1909, p. 1238, "Dirigibles," and November, 1909, "Cost of a War," p. 1515.—E. G.

Division of 2 Batteries, 1 Ammunition Park and 1 Reserve. Each H.A. Division and Heavy Howitzer Division of 3 Batteries and an Ammunition and Reserve Park for the service of both. There are 6 Regiments of Mountain Guns, each consisting of 4 Mountain Batteries, 1 Ammunition and 1 Reserve Park.

THE BELGIAN ARMY, 1908.

The stations, organisation and strength of the Belgian Army given in the Reports are the same as tabulated in the JOURNAL for November, 1905, p. 1267. The new law recently passed for compulsory service was not reported, as it had not been decided on when the Reports were published.

CHINA, 1908.

A full report of the old Army and of the new Chinese Army is given in the Reports, which there is not space for here, and much information has already been given in the JOURNALS for 1909.

FRANCE, 1908.

In the December JOURNAL last year, p. 1688, a somewhat full *précis* of the v. Löbell Report on that country for 1907 was given. That for 1908 is not long, and there are but few changes. The average mean peace strength in 1908 is given as 555,000 men, without counting those troops of the Colonial Army who are in France, but inclusive of 32,000 half efficient men. This average mean strength will probably, it is said, be increased in 1909; and the Report shows in detail why it will probably amount to 558,000. It is a mistake, it says, to reckon upon this strength being henceforth considerably decreased. The number of *re-engaged men* has increased.

Heavy Artillery.—12 Batteries of Garrison Artillery were converted into Heavy Field Artillery and armed with 155-mm. (6'1-inch) Rimalho guns; 3 Batteries had previously been converted, and the 30th Field Artillery Regiment in Nancy is to have two similar Batteries added to it.

Machine Guns.—The Infantry and Cavalry are being steadily supplied with machine gun sections. Each Infantry Regiment is apparently to receive 3 sections, and each Cavalry Regiment one. The organisation of these was detailed in the JOURNAL for January, 1909, p. 125.

THE GERMAN ARMY, 1908.†

The increase of the German Army has steadily progressed in accordance with the Law of the 15th April, 1905, and will be completed by the 31st March, 1910. Of the 633 Infantry Battalions, only 2 (Prussian) Battalions, and of the 510 Squadrons of Cavalry, only 11 (5 Prussian, 5 Saxon, 1 Bavarian) have to be raised. An experimental 3rd Airship Company of 3 officers and 85 non-commissioned officers and men was formed at Berlin in 1908. The number of students in the *Kaiser-Wilhelms-Akademie* has been raised till 31st March, 1912, to 60.

Recruiting Statistics were given in the JOURNAL for March, 1909. The "*Recruiting Reserve*" is generally called "*Supplementary*"—that is, men in excess of the requirements of the year who are partly trained, and have to replace casualties or enter upon Army service in the 2nd Line in case of war.

GREAT BRITAIN, 1908.

Very full Reports of the British Army at Home and in India, including Native Troops, are given. The loyalty and fine spirit of the latter are brought to notice, and the improvement in the conduct of the Home Army is mentioned, owing, it is said, to the greater care taken in enlistments.

The great want of officers in the British Army is again brought to notice. Sir Ian Hamilton's appointment to the Army Council is mentioned and praised, and the liability of the Territorial Force to Military Law while out for training, and, in fact, every detail regulating our Home Defence Force is noticed.

GREECE, 1908.

A full Report of the Grecian Forces is given, which there is no space to reproduce.

JAPAN, 1908.

A full account and a tabular statement showing the distribution of the Japanese Divisions are given. These are as given in the Table in the JOURNAL for October, 1907, p. 1257, with the addition of two new Divisions, the 17th at Okayama and the 18th at Kurumej (*sic*), of the same strength and composition as the others. The totals were in 1908: Infantry, 38 Brigades, 76 Regiments, 228 Battalions; Cavalry, 4 Brigades, 27 Regiments, 89 Squadrons; Field Artillery, 3 Brigades, 25 Regiments, 50 Brigade Divisions, †† 150 Batteries; Engineers, 19 Battalions,

†The Report on the German Army is unusually short this year, but officers will find recruiting statistics in the JOURNAL for March and June, 1909, pp. 405, 814, Mil. Notes. Information about Automobiles in that for May, 1909, pp. 666-7, Airships in June, 1909, p. 817, and September, 1909, p. 1240, and experimental firing at balloons in October, 1909, p. 1379, from the *Revue Militaire*. The Stations, Organisation, etc., of the German Army are as tabulated in the JOURNAL, October, 1906, p. 1258.—E. G.

††This term is retained for the reasons given in 1907 as above in the foot note.—E. G.

57 Companies; Train, 19 Battalions, 38 Companies. Some Infantry Regiments have Hotchkiss Machine Gun Batteries of 6 guns each attached.

As a result of their war experience, the Japanese have reduced the number of their Mountain Batteries from 36 to 9. The divisional Cavalry is reduced to 2 Squadrons, and the Squadrons thus set free are formed into new Cavalry Brigades. The Captains of Infantry are unmounted. The total peace strength of the 19 Divisions may be reckoned at 250,000 men. They are not to be grouped into Army Corps, but 4 or 5 Divisions, as a rule, will form an Army.

Great attention is being paid to the acquisition of foreign languages by officers. In 1908, 59 passed in English, 36 in German, 26 in Chinese, 14 in French, and 5 in Russian. Non-commissioned officers are thoroughly instructed now in Hygiene and First-Aids.

The Report praises the methods of training of the Japanese soldiers, and eulogises the untiring perseverance of the authorities in adapting what is best in foreign Armies to their own requirements. To this and to their discipline and intelligence, their high sense of honour and devotion to duty—above all, to their stern determination to do or die in battle—the Report attributes their unexampled success in their latest war.*

Field Kitchens have been used for some time with great success. A new pattern large camp-kettle now cooks for 600 men. This is drawn in a 4-horsed wagon; details are given. These were used at the manœuvres in 1908.

THE ARMY OF SPAIN IN 1908.†

The peace strength in 1908 amounted to 80,000 men. This could be increased by calling up the Army Reserve to 100,000. The War Minister, Field-Marshal Primo de Rivera, intended to bring up this strength in 1909 to 120,000 and to ask the Cortes to approve of this and to reduce the colour service‡‡ from 3 to 2 years.§ Out of 128,723, about 50,000 were found fit for service in 1908, and were distributed among the Army, the Fleet, the Guardia Civile, and the Carbineeros (Gendarmes).

*For a more complete Report of the Japanese Army in 1908 see the JOURNAL for September, October, November and December, 1909, pp. 1209, 1351, 1492, 1618.—E. G.

†The Spanish Army was partly reorganised in 1903 in accordance with General Linare's scheme.

‡‡Spain is one of the few countries which have still a system of enlistment by "conscription," the liability running from the 21st to the 36th year of age.

§It has practically been 2 years of late.

THE ARMY OF SPAIN IN 1908.

Provinces * and Military Districts with Hd. Qrs. of Divns.	Divisions.	Infantry.			Rifles.			Cavalry.			Artillery.			Engrs.		Remarks.	
		Brigades.	Regts.	Batns.	Cos.	Brigades.	Batns.	Cos.	Brigades.	Regts.	Sqdns.	Regts.	Troops.	Batteries.	Regts.		Cos.
I. New Castle	2 Inf.	4	8	24	96	1	6	30	3	15	5	14	37	1	8	1, 5, The 3rd Batn, and 8 Sqdns, consisted of Cadres only.	
Madrid	1 Cav.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	4, 5th Field Art. Regts, have 4 Bats.	
II. Andalusia	2 Inf.	4	8	24	96	1	6	30	2	10	2	5	15	1	8	Capital Madrid.	
Badajoz, Granada	2 "	4	8	24	96	—	—	—	—	—	—	—	—	—	—	Each Military District is commanded by a Lieut.-General.	
III. Valencia	2 "	4	8	24	96	—	—	—	1	4	20	2	4	12	1	8	
Valencia, Alicante	2 "	4	8	24	96	1	6	30	1	5	25	2	4	12	1	8	
IV. Catalonia	2 "	4	8	24	96	—	—	—	—	—	—	—	—	—	—	—	
Barcelona, Gerona	2 "	4	8	24	96	—	—	—	—	3	15	2	4	12	1	8	
V. Arragon	2 "	4	8	24	96	—	—	—	1	4	20	2	4	12	1	8	
Tarragona, Saragossa	2 "	4	8	24	96	—	—	—	—	—	—	—	—	—	—	—	
VI. Burgos	2 "	4	8	24	96	—	—	—	—	—	—	—	—	—	—	—	
Valladolid	2 "	2	4	12	48	—	—	—	2	10	1	2	12	1	8	As a result of their war experience, the number of their Mountain Divisional Cavalry is reduced to 2	
VII. Old Castle	1 "	2	4	12	48	—	—	—	—	—	—	—	—	—	—	As a result of their war experience, the number of their Mountain Divisional Cavalry is reduced to 2	
Vittoria, Pamplona	1 "	2	4	12	48	—	—	—	—	—	—	—	—	—	—	As a result of their war experience, the number of their Mountain Divisional Cavalry is reduced to 2	
VIII. Galicia	1 "	2	4	12	48	—	—	—	—	—	—	—	—	—	—	As a result of their war experience, the number of their Mountain Divisional Cavalry is reduced to 2	
Leon, Coruña	1 "	2	4	12	48	—	—	—	—	—	—	—	—	—	—	As a result of their war experience, the number of their Mountain Divisional Cavalry is reduced to 2	
In Balearic Isles	14 Inf.	29	58	174	686	3	18	90	8	28	140	17	39	124	7	56	As a result of their war experience, the number of their Mountain Divisional Cavalry is reduced to 2
In the Canary Islands	1 Cav.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	As a result of their war experience, the number of their Mountain Divisional Cavalry is reduced to 2
Tenerife (Santa Cruz)	—	—	4	10	64	—	1	4	—	—	—	—	—	—	—	—	As a result of their war experience, the number of their Mountain Divisional Cavalry is reduced to 2
In Ceuta and Melilla†	—	—	4	12	96	—	4	12	—	—	—	—	—	—	—	—	As a result of their war experience, the number of their Mountain Divisional Cavalry is reduced to 2
N. African Coast	—	—	4	13	52	—	—	—	—	—	—	—	—	—	—	—	As a result of their war experience, the number of their Mountain Divisional Cavalry is reduced to 2
Total	14 Inf.	29	70	209	908	3	23	106	8	28	146	17	39	132	7	66	As a result of their war experience, the number of their Mountain Divisional Cavalry is reduced to 2

† This tabular statement was composed before the present outbreak of war with the Moors.

Notes on the composition and organization of the Expeditionary Force to Melilla will be found on pages 1658-9 of the JOURNAL for December, 1909.

The strength of units was as under:—

Unit.	Peace.		War.		Remarks.
	Offrs.	Men.	Offrs.	Men.	
Infantry Regt.	60	675	69	3028	{ The Infantry Bn. has 4 Cos. each having 3 Züge, each Züge 2 platoons, each of 2 groups.
Rifle Regt.	29	466	29	1000	
Cavalry Regt.	51	474	43	701	
Field Art. Regt.	35	518	68	1514	36 Field Guns.

The military authorities have always encountered great difficulties in their repeated attempts to reform the Spanish Army. The representatives of the people have shown consistent indifference to Army matters, and have been steadily averse to carrying out strictly the rules of conscription.

A new Enlistment Act was projected in 1908, and a Commission, presided over by General de Madariaga, worked out details: colour service to be reduced to 2 years, Army Reserve extended to 4 years, in 2nd Reserve to 7 years; after this, the Landsturm (general levy) service to begin. Taking it all round, the total service is to be increased from 12 to 15 years. The peace strength is to be always 100,000, but capable of expansion on mobilisation to 300,000.

Though the loss of Cuba caused a diminished demand for officers, there are still many vacancies. Still, there are more than enough always for the normal strength of 100,000 men, though in certain grades there are many deficiencies.

(To be continued.)

THE MILITARY FORCES OF PERSIA.

Abbreviated translation from *Streffleurs Militärische Zeitschrift*, August, 1909.

Contributed by the General Staff.

UNSTABLE finances and shortcomings in the national character render any organisation, in the European sense of the term, an impossibility. At present only two Government institutions are to a certain extent organised—the customs department, which is conducted by Belgian officials, and the Cossack Brigade, which is commanded by Russian officers.

The Persian Government has repeatedly had recourse to European military instructors. English officers were called into the service of the Shah at the beginning of the 17th century as instructors in the use of the firearms lately acquired. They succeeded in training a small detachment on European lines, but their work was soon forgotten. Nadir Shah tried once more at the end of the 17th century to raise a standing army, but without permanent result. The next hundred years passed without any real reform, but several military missions visited Persia in the 19th century.

In the year 1807-8 some 70 French officers and non-commissioned officers succeeded in raising small detachments in northern Persia. English diplomacy, however, soon procured their recall, and in 1809 their place was taken by officers and instructors from the Indian army. These were withdrawn in 1815 owing to misunderstandings between England and Persia. In 1834 English instructors once more appeared; in 1840 French and later Italian, but all these missions withdrew after a short stay.

In 1852 the first Austrian mission, consisting of 4 officers, appeared, but this, too, left the country, having accomplished little, in 1858-9. The French mission of 1859-61 met with a similar fate. Some years later, Nasr-ud-din asked the British Government to send a number of instructors, but without result, for the British had had experience of the futility of attempts at army reform in Persia.

In 1878, Nasr-ud-din, during his tour in Europe, asked the Austrian Government for instructors. In January, 1879, the second Austrian military mission accordingly reached Tehran. It consisted of 11 commissioned officers, who were

engaged for three years, an ordnance official and a bandmaster. The officers were required to raise 7 battalions of 800 men each. The work of this mission, as of all its forerunners, was rendered difficult by the covert hostility of the other European powers. Opposed particularly by Russia, who was then preparing to raise the Cossack Brigade, and overwhelmed by countless other difficulties, the majority of its officers returned to Europe in 1881. Since that time several retired Austrian officers have made their way to Persia in private capacities as instructors. Of these, one who now holds the rank of colonel in the Persian army, has acted with conspicuous success as professor in the Military School of Tehran, and last February was extended in his appointment for five years.

That none of these military missions achieved any measure of lasting success may be attributed to the mutual jealousy of the European powers, the want of suitable material, and to financial difficulties. In many instances the Persian officials, who had arranged for the coming of the missions, retired or were removed from their appointments, and the foreign officers, deprived of official encouragement, were soon compelled to withdraw.

Most of these foreign officers held but a poor opinion of the military qualities of the Persian people. The officers are said to be wanting in the moral qualities required for command; the rank and file, though tractable and not unintelligent, are without natural respect for their officers, and so difficult to discipline. The officers of the first English mission came to the conclusion that until power had been more centralised in the supreme Government, it would be impossible to raise a Persian army on one uniform system, and that the enlistment of irregular tribal corps would give greater promise of success in a people consisting largely of a loose conglomeration of formerly nomadic tribes.

In 1878 the Persian Government accepted the services of Russian officers as instructors for the Cossack Brigade, accompanied by a gift of 1,000 rifles and 2 light field batteries for its preliminary armament. This Cossack Brigade has not only maintained, but improved its position owing to the continual growth of Russia's economic influence in Northern Persia, and the conscientious labour of the Russian instructors.

General Characteristics and Organisation of the Army.

(a) Matériel.

The matériel of the Persian army, and in particular the Kurds in the N.W., and the Bakhtiaris in the S.W., is for the most part of excellent physique; the men are strong, hardy and frugal in their wants. On the other hand, military education and training is totally neglected except in the Cossack Brigade. The responsibility for this state of things rests with

the officers, who are in no way suited for, or educated in, their profession. All the qualities which are considered indispensable to their calling among the officers of a European army are wanting in the overwhelming majority of Persian officers. With the exception of a few young Persians who have been trained in Europe, they have no military knowledge. Military rank with orders and emoluments is hereditary from father to son. On the death of a Persian General, his eldest son, who may be little more than a boy, parades next day as a General in the uniform and decorations of the father and draws the pay. Military rank, if not inherited, can be purchased. Bribery is rampant. No attempt is made to spend the military budget in a proper manner.

The Persian soldier is poorly and very irregularly paid, and is in consequence compelled to eke out his livelihood by casual labour. Men in tattered uniforms are to be seen in every town engaged in civil work. For this they have abundant leisure, as military training is practically non-existent. Except in the Cossack Brigade, the men's uniform is extremely shabby. A mixture of old uniform and cast-off civilian clothing is usually worn—the wearer being often guided solely by his personal taste. For special "parades" some hundreds of men are turned out somewhat better, but even on these occasions there are seldom more than a dozen or two clad alike. There is no discipline.

(b) *Organisation, Armament, Supply, Recruiting.*

1. *The Cossack Brigade.* The Brigade consists of:—

4 regiments of cavalry, each of 2 squadrons, 170 strong—total about 1,350 men. The trooper provides his own horse.

1 battalion of infantry, consisting of 4 companies, each 100 strong. The strength of this battalion is, however, fluctuating, as men of the cavalry regiments, whose horses are unfit for service, are temporarily enrolled in its ranks.

2 horse batteries, each of 4 six-horsed guns and 80 men with 6 ammunition wagons (at present without horses).

A brigade band, consisting of a bandmaster and 58 men.

The Cossack Brigade is commanded by a Russian officer of the General Staff, who is nominally under the Persian Minister of War, and draws pay from the Minister of Finance, but who is, as a matter of fact, in immediate communication with the Shah and the Russian Embassy. The Russian instructional staff further consists of 4 officers (2 cavalry, 1 infantry and 1 artillery), 5 non-commissioned officers, 1 medical officer, and 1 veterinary officer.

The interior economy of the Cossack Brigade resembles that of one of the Caucasian Cossack regiments. The words of command are given in Persian, but almost all the Persian officers and many of the non-commissioned officers can speak Russian.

Each Cossack is armed with a Caucasian dagger, carried in the belt, and a rifle (single loader of the Berdan system). The mounted Cossacks carry in addition a long Caucasian sword. The Brigade has recently received 400 Russian repeating rifles (3 line, pattern 1904), but these have not yet been taken into use. The magazines contain about 20,000 rounds of Berdan ball ammunition. Further supplies must, if required, be ordered from Belgium, as this sort of ammunition cannot be manufactured in Persia and is no longer produced in Russia.

The horse batteries are armed with 8.7 centimetre Krupp guns, of obsolete pattern. A total stock of 4,000 common shell, shrapnel and case shot is kept in hand, and additional supplies would be drawn from Russia in case of need.

Since the summer of 1908 the infantry battalion has been equipped with four 6.5 millimetre machine guns of the Maxim-Spandau system. These guns can fire at the rate of 700 shots a minute. Ten thousand cartridges per gun are kept in stock.

At the beginning of 1909 the Brigade was allotted eight 7.5 centimetre automatic-recoil field guns of the system Schneider-Creusot. Each of these guns has a supply of 75 rounds shrapnel, 25 common shell and 8 case shot. They are not yet in use.

The Cossack Brigade is recruited by voluntary enlistment. Any Persian of from 18 to 40 years of age, who has been found fit by the medical officer of the Brigade is eligible. Men serve for life or until invalided, early retirement being only permitted under very special circumstances. After 15 years service the Cossack can claim a pension for life at the rate of half his pay; after 30 years service a pension equal to his full pay (*i.e.*, a minimum monthly pension of 3 *tomans*, or about 10s. 11d.) Should a man, as the result of service, be incapacitated from earning his own living, he receives a bonus on discharge amounting, in some cases, to as much as 200 *tomans* (about £36 6s. 8d.)

The pay amounts to 3 *tomans* (10s. 11d.) monthly and rises, in the case of non-commissioned officers, to 4.7 *tomans* (17s. 1d.) On field service these rates are doubled and even trebled. Unmarried Cossacks feed in messes, and 1.5 *tomans* (5s. 5½d.) is deducted from each man's pay on this account.

The Cossack Brigade is quartered in winter in Tehran in large and well-equipped barracks. In summer it moves into huts, 4 miles north of the city. Guards of 3 to 4 mounted and 4 to 6 dismounted Cossacks are detailed for most of the European embassies in Tehran. The British embassy, however, has a guard of 12 Bombay Lancers, and the Russian embassy 6 Russian Cossacks and a detachment of Persian infantry.

A sum of 230,000 *tomans* (£41,783) is provided in the Persian budget for the upkeep of the Cossack Brigade, but the actual expenditure amounts to from 300,000 to 400,000 *tomans*.

(£54,500 to £72,666). The pay and administration are controlled by the Russian commandant.

An elementary school is maintained for the instruction of the sons of Persian officers in the Brigade. The pupils are taught to read and write Russian, and, in the higher classes instruction is given in military subjects. In addition to this school, there exists in the Cossack barracks a hospital of 30 beds, a veterinary hospital, farrier's and carpenter's shops and a Persian bath.

2. The *Irregular Cavalry* consists of about 20,000 mounted tribesmen, under their tribal chiefs. The men are good horsemen, but unorganised and undrilled and devoted to pillage. In a guerilla war waged against the communications of an invader, they might render good service.

They are organised in 95 bodies of from 50 to 700 men strong, scattered through the provinces and cities. Every tribe or district contributes a fixed number of men, or a money contribution in lieu, according to the number of its families or tents. Each man provides his arms and horse. The armament has been poor up to date, but latterly many firearms have been imported, and the Bakhtiaris in particular are now well equipped.

The officers serve without pay as a rule, but receive free rations and forage when on service. The non-commissioned officers and men are nominally paid at the rate of 20 to 24 *tomans* a year (£3 12s. 8d. to £4 7s. 2d.) with free forage, but the payment varies according to locality.

Most of the Arab, Persian and Turkoman horses are of middle height, and are hardy and easily trained.

3. *Irregular Infantry.*

The irregular infantry is organised on a territorial and tribal basis. The strength of the contingent of recruits is laid down by the tribal chief or the governor of the district; still certain districts provide fewer and other districts more recruits than the number demanded. To encourage enlistment a small cash bounty of 3 to 30 *tomans* (10s. 10½d. to £5 8s. 9d.) is paid annually to the recruits or to their families by the local governments. Since, however, the payment of this bounty is not taken into consideration in the assessment of subsequent taxation, the local governments decline often to disburse it. Soldiers who are quartered in the neighbourhood of their homes have no claim to it.

Service is for life. The only exception is when the soldier can provide a substitute or purchase his discharge by bribery. Small payments and presents only procure furlough.

Christians, Jews and Parsis are excused military service; on the other hand Armenians serve as officers.

The irregular infantry is grouped in 69 battalions of 4 companies, each 40 to 100 strong. Each company is commanded by a captain with two subalterns, and the battalion by

a colonel or general. The officers are only paid on active service, the men receive 7 *tomans* (£1 5s. 4½d.) a year. The armament is very varied. In all there are among the troops and civil population some 300,000 rifles of obsolete pattern—Werndl, Chassepôt, Tabatières, Martini-Henry, Mackenzie, Mauser, Winchester, 11-millimetre Mannlicher, Berdan, Lebel. In addition the Government possesses ten to fifteen thousand muzzle loaders, and since the end of 1908, 10,000 Lebel repeating rifles (Pattern 86/93), which, however, have not yet been issued to the troops.

4. *Semi-regular Artillery.*

The artillery is distributed in 15 commands, each consisting of 4 to 6 guns, with a personnel of nominally 250 men. However, in more than half of these commands the men do not exist, while in the others they are practically untrained. There are no horses. During the summer trainings in Tehran a few batteries are horsed annually for a month or two. There are no ammunition wagons, and ammunition is carried on camels or mules.

The guns date for the most part from the period of the Austrian mission of 1879 and are of Austrian make, with the exception of the 8 Krupp guns of the Cossack Brigade. There exist at present fifty-one 8 and 9-centimetre field guns (pattern 75), thirty-two 7-centimetre mountain guns (pattern 75), and some 600 obsolete and mostly useless muzzle loaders of various patterns.

The artillery would be of no use opposed to a European army; it could be profitably employed only against poorly armed tribesmen and for the destruction of Persian houses, which are constructed of mud and bricks. There are no guns of large calibre.

No fortified places exist in Persia. The larger towns, such as Tehran, are partially surrounded by ramparts of loose earth or mud of no defensive value.

At the end of 1908 Creusot supplied the Persian Government with 32 modern 7.5 centimetre automatic-recoil guns. Of these only 16 have been mounted, and 8 have been taken over by the Cossack Brigade. Artillery experts consider these guns of defective construction. Quite recently sixteen 7.5 centimetre Schneider-Creusot mountain guns without automatic-recoil equipment have been imported. For each of the 32 modern field guns and 16 mountain guns there is a supply of 75 shrapnel, 25 common shell, and 8 case shot, of which the Cossack Brigade has appropriated the greater part.

There is no *medical service* in the Persian army, and medical officers and military hospitals do not exist outside the Cossack Brigade. Persia is a signatory to the Geneva Convention, and has adopted the badge of a red lion instead of the Red Cross. The bad climate and total want of sanitation in Persia are matters to be reckoned with by an invading army.

Supply and transport departments are likewise non-existent. When on the march the troops are neither paid nor fed adequately by the State, and have recourse to plunder, so that a Persian column causes greater terror to the people of its own country than to the enemy. The baggage of each two or three men is carried on a donkey or mule, which on a forced march invariably goes lame.

As long as the *Arsenal* in Tehran was superintended by European non-commissioned officers, rifle ammunition of passable quality was provided. Since the dismissal of these officials work has entirely ceased.

In addition to the Cossack Brigade schools, a *military school* in four classes has existed in Tehran since 1881. In the lower classes, elementary instruction is imparted, and in the higher forms some smattering of military science. Graduates, however, have no right to commissions in the army, unless they inherit them or are in a position to purchase them with hard cash. The school therefore serves only to turn out lazy individuals, who spend the remainder of their lives in idleness and debauchery.

Navy. Persia possesses no war ships. Owing to treaty¹ with Russia she no longer possesses the right to maintain ships on the Caspian Sea, and only seven small gunboats are kept for the customs services on the Persian Gulf.

To sum up, the raw material of the Persian army is not to be despised physically or mentally; on the other hand there is no proper organisation and sense of duty; discipline and military knowledge are entirely wanting in both officers and men. The only organised force is the Cossack Brigade, which with a strength of some 2,000 men, would be powerless to resist a foreign invasion or even to reduce rebellious provinces to submission. It is unnecessary to remark that in case of a Russian invasion, the Cossack Brigade would offer no resistance

¹ Treaty of Gulistan, 1813.—G.S.

THE IMPORTANCE ATTACHED TO MOVEMENT IN JAPANESE TACTICS.

Contributed by the General Staff.

"If you wish to be victorious, as your compatriots are everywhere else, attack the enemy every day, morning and evening. Attack and keep on attacking."—*Carnot to the Army of the Rhine.*

MUCH has already been said about the Japanese War. I do not know whether lessons were drawn from this war before it commenced, but it is quite certain that its lessons were published before it was finished.

In this Journal, indeed, General De Heusch last year wrote an interesting article on this subject summing up the lessons of the war.

I intend merely to put forward, with reference to these lessons, certain ideas which have appeared to me, to our detriment, to be better understood in Germany than in France.

In the first place, the chief characteristic of the Japanese method of fighting is movement. Carnot said to the Army of the Rhine: "If you wish to be victorious, as your compatriots are everywhere else, attack the enemy every day, morning and evening. Attack and keep on attacking." It is thus that the Japanese have fought.

I studied this war for some time, and whilst doing so I tried to put before myself the facts as they must have happened. When I had finished my study my mind's eye seemed to see the rough plains of Manchuria covered with little yellow men, who were advancing, sometimes singly and sometimes in groups, who only stopped for a moment at a time, and then immediately resumed the forward movement. I have described the picture that presented itself to my mind because I believe it to be true.

The Japanese did not do extraordinarily gallant actions on certain portions of their battlefields, whilst they remained inactive elsewhere, but rather they moved forward in their masses like a powerful, disciplined and willing tide.

Captain Schulz says: "We used to represent the advance towards the enemy either as a continuous movement, or as an advance by rushes, helped on or rendered possible by the fire of the artillery or by the fire of neighbouring bodies of infantry, or (in the case of the advance by rushes) rendered possible by its own fire. This advance was continued up to what was called 'the principal fire position,' or perhaps the objective was several such positions situated between what were formerly medium and close ranges. From these positions an endeavour was made to crush the enemy by superior fire. The struggle

to reach the final fire position was looked on as the decisive act of the fight for the further forward movement, and the assault which resulted from it presented no further difficulties and were without importance because in the majority of cases the final assault was only made against a position which had been abandoned by the enemy or was but feebly defended by him."

The Boer War had already showed the erroneousness of this idea, because when the attacker on several occasions arrived within 200 yards of the enemy, after having apparently obtained superiority of fire, he was unable to advance any further. We thought, however, that this should be attributed to the insufficient war training of the English.

But the war in the Far East has completely destroyed the foundations of our former belief. Not only did the attacker, after having apparently beaten down the defence, arrive within 200 yards of the enemy's position without causing him to evacuate it, but he even got so close as 50 or even 20 yards without making the enemy budge. The assailants then simply tried to produce a temporary cessation of the enemy's fire, and, taking advantage of this, endeavoured to gain ground to the front and approach sufficiently close to the enemy's position to be able to reach it without great effort in a single rush.

The necessity for the infantry to keep moving was well exemplified at the battle of Nan Shan. The attack of the Japanese centre and left wing had come to a standstill. On the right the 4th division alone was making progress. Oku, the Japanese Commander-in-Chief, wrote as follows in his report on the situation, dated 5 p.m.: "The situation of the left wing of the 3rd division was becoming every minute more critical." It was only by moving through the sea that the 3rd division could advance; the artillery ammunition of this division was becoming exhausted. "This is why," continues General Oku, "I was obliged to give the infantry the order to attack at all costs." And Major Estorff¹ adds: "A decision certainly worthy of General Constantin Von Alvensleben on the 16th August, 1870." The assault did not have any immediate result, but the Russian General, who might have continued the struggle, preferred to retire on Port Arthur.

Thus is very clearly shown the difference in the degree of activity exhibited by the Japanese and the Russians. The study of the battles on the Yalu and at Liaoyang lead us to similar reflections regarding the difference in the methods of the Japanese and the Russians. Captain Otto Schulz gives the following details regarding the manner in which the Japanese infantry advanced: "The Japanese used almost exclusively the method of advancing by rushes, though the exact manner of employing these rushes varied. Groups, sections, com-

¹ Estorff, page 12.

panies and whole battalions advanced by rushes as long as 100 yards. The hotter the enemy's fire, and the more destitute the ground was of cover, the shorter were the rushes and the smaller the bodies which rushed forward. . . . Another method of advancing towards the enemy was by creeping. This method, which was very much in favour before the war in the Far East, did not retain its popularity. The surface which a man exposes when he creeps is, indeed, two-thirds of that which he exposes when running. For the rest, it is very fatiguing to creep. It makes the hands and knees swell. The man who creeps advances only very slowly. It is necessary, moreover, to point out another disadvantage which caused the commanders of companies, who looked at the question from an economical point of view, to regard the advance by creeping with some disfavour even in time of peace. This disadvantage consisted in the fact that tunics, trousers, cartridge pouches, and particularly boots, are seriously damaged when carrying out such an advance. In fact, the Japanese hardly ever advanced by creeping. Their method of moving forward was by doubling and making use of the ground as much as possible.

The Japanese were well aware themselves during the war that the enemy was less animated with the spirit of the offensive than they were themselves.

Kuroki said during the preliminary skirmishes at Mukden : "The enemy may be said to have no offensive spirit; he advances, indeed, but he digs trenches on his advanced positions, and remains there solidly and advances no further. Shrapnel produces little effect. . . . There is no reason to fear the enemy's cavalry."¹

In this connection we see that the Japanese infantry made use of dismounted officers' patrols. The Russians declare, regarding this, that these patrols crept right up to their trenches. Whilst one man remained in observation the others fired.

It was at night that the infantry advanced in close formation. Connecting posts established at 50 or 100 yards, in trenches, kept up communication between the subordinate leaders.

The desire to crush the enemy, to do something to damage him, is met with even when considering the methods of the Japanese on the defensive.

Captain Schulz says on the subject : "When one of us receives an order to act on the defensive he generally proceeds in the following manner:—He looks for a position on the map, and either on or behind this he places himself with the object of beating back the enemy. He has also the idea in his mind that if circumstances are favourable and the enemy does not attack him, he will attack the enemy. A Japanese (given the order) would regard the problem from an entirely different point of view. He would look, first of all, for a position. If

¹ Estorff, page 5.

he found it he would say, 'The enemy believes me to be on this position, but I will only use just a sufficient number of troops to make him think I am here. My main force I will keep entirely on a flank or in some position from which I will attack the enemy when he moves to attack the position which he thinks I am occupying.' We find the Japanese imbued even more than we are with the wish to deceive the enemy. It is for this purpose that they often use false fronts, straw figures, dummy lines of skirmishers, and dummy guns made of wood."

The Germans have not been content with recognising the importance of activity. They are working daily to try to find some means of attaining greater activity in the fight.

As regards the infantry, German military writers propose to increase still further the initiative of section commanders, and even more so of group leaders, and to allow them, should they think it right, to adopt on their own responsibility more open and less vulnerable formations.

As regards these group leaders themselves, it is proposed that they should be always in front of their groups and not behind them; (in the German company the group leader commands eight men). The author of this proposal, who signs himself "A.F." in the *Militär-Wochenblatt*, points out that the fact of the group leaders remaining in rear results in nothing but disadvantages. For example, it is not so easy to command from behind, and time is lost and the formation of the group upset when the group leaders move forward at the moment of deploying.

When once the deployment of the company has been completed, how will the manœuvre, often a delicate one, of reinforcing the firing line be carried out? It is evident, in open country and under fire, that in ninety-nine cases out of a hundred, it is a mistake for a whole section, or even a half section, to rush simultaneously into the firing line, although sometimes the section leader has not the necessary energy to compel his men to do otherwise. Here is what Major Hulsen proposes: "The company is in line of sections at fifty paces interval. Each section deploys, for example, the front rank of three groups, the second rank follows at about 300 yards distance, and joins the first line when the latter has reached the first fire position; there is no mixing up of the groups. There are, therefore, 72 men firing, because there are eight men in a group, and three sections in a company. If the first line suffers losses, if, for example, five or six men are killed, they are immediately replaced by the nearest groups, man for man. If there are gaps in the deployed sections during the advance, then the first supporting group moves into the intervals, each section being self-supporting."

This method of reinforcing when the company is in action is not the only one to be recommended, but it is a possible one.

NAVAL NOTES.

The following are the principal promotions and appointments which have been made: Vice-Admiral—Sir A. L. Winsloe, K.C.B., C.V.O., C.M.G., to be Commander-in-Chief in China. Captains—W. H. Hall to "Natal"; E. B. Kiddle to "Astræa"; H. H. Campbell, M.V.O., to "Hindustan"; F. G. Eyre to "Triumph"; W. C. Pakenham, C.B., M.V.O., to "Collingwood"; D. R. Nicholson to "St. Vincent"; M. Singer to "Dominion"; G. A. Ballard to "Commonwealth"; the Hon. Stanhope Hawke to "Hampshire"; H. H. D. Tothill to "Lancaster"; R. Nugent to "Majestic"; G. C. Cayley to "Minotaur," as Flag-Captain to Vice-Admiral Sir A. L. Winsloe; F. Gaunt, C.M.G., to "Queen."

Vice-Admiral Sir A. L. Winsloe, the new Commander-in-Chief in China, is to hoist his flag in the first-class armoured cruiser *Minotaur*, which, with the exception of the *Dreadnought* cruisers, is one of the three most powerful cruisers in the Navy, her sister ships being the *Shannon* (flagship of the Second Cruiser Squadron) and the *Defence*. She was completed about two years ago, and is a much more powerful ship than the *King Alfred*, whose place she is taking, having an armament of four 9·2-inch and ten 7·5-inch Q.F. guns, with sixteen small Q.F. guns, as compared with the two 9·2-inch, sixteen 6-inch Q.F. guns, and fifteen smaller Q.F. guns mounted in the *King Alfred*. The *Minotaur* has a displacement of 14,600 tons, and her engines, which develop 27,000-I.H.P., give her a speed of 23 knots.

Rear-Admiral F. S. Inglefield took over the duties of Admiral Commanding Coast Guard and Reserves from Admiral Sir R. F. H. Henderson, K.C.B., on the 31st ult. Rear-Admiral F. C. D. Sturdee, C.M.G., hoisted his flag at Sheerness on the 5th inst on board the *Lord Nelson*, in succession to Rear-Admiral C. J. Briggs, as Rear-Admiral in the First Division of the Home Fleet; and on the same day at Devonport Rear-Admiral A. C. Galloway hoisted his flag on board the *Sutlej*, in command of the Devonport Sub-division of the Home Fleet, in succession to Rear-Admiral C. Burney.

New Floating Dock.—The floating dock to be stationed at Portsmouth, for which the contract has been secured by Messrs. Cammell, Laird & Co., will be 700 feet long, 150 feet broad, and will have a lifting capacity of about 40,000 tons. It will be able to accommodate a vessel up to 40 feet draught. The dock is to be delivered in eighteen months from the date of contract. It is understood that Messrs. Swan, Richardson & Co., of Newcastle-on-Tyne, are to build a similar dock for the Medway.

Health of the Navy for 1908.—The returns for the total force for the year 1908 show a continuous improvement in the general health of the fleet as compared with the preceding five years. Not only are the case, invaliding, and death ratios for the year under review lower

Home.

than the average ratios for the last five years, but the average loss of service for each person has dropped from 11·28 to 10·36 days. The final invaliding ratio, however, shows a small increase in comparison with the previous five years' average.

The total force, corrected for time, in the year 1908, was 109,210, and the total number of cases of disease and injury entered on the sick list was 75,608, which gives a ratio of 692·31 per 1,000, being a decrease of 53·49 as compared with the average ratio of the preceding five years.

The number of entries per man for disease and injury was: Home Station, '78; Home Fleet, '64; Channel Fleet, '61; Atlantic Fleet, '6; Mediterranean, '61; North America and West Indies with Fourth Cruiser Squadron, '72; China, '83; East Indies, '09; Australia, '68; Cape of Good Hope, '6; and the Irregular List, '76. For the total force the average was '69, the same as in 1907.

The average number of men sick daily was 3,093·81, giving a ratio of 28·32 per 1,000, a decrease of 2·58 in comparison with the previous five years. The total number of days' sickness on board and in hospital was 1,132,336, which represents an average loss of service of 10·36 days for each person—a decrease of '92 in comparison with the average for the preceding five years.

The ratio per 1,000 of men sick daily on the various stations was: Home Station, 34·72; Home Fleet, 27·2; Channel Fleet, 22·64; Atlantic Fleet, 23·71; Mediterranean, 24·6; North American and West Indies with Fourth Cruiser Squadron, 25·52; China, 29·04; East Indies, 28·68; Australia, 26·2; Cape of Good Hope, 23·08; Irregular List, 48·02. For the total force the ratio was 28·32. As was the case in the three preceding years, the Channel Fleet shows the lowest, and the Irregular List the highest, sick rate.

The average number of men sick daily under the different diseases will be found in the Medical Statistical Return of the total force, Table No. 1.

The total number invalided was 2,184,¹ which gives a ratio per 1,000 of 19·98—a decrease of 2·91 per 1,000 in comparison with the average ratio for the preceding five years. The total number of persons finally invalided was 1,889 (as shown on Table No. 1 of the total force), of whom 57 were invalided after refusing operative treatment. The ratio per 1,000 of final invalids was 17·29—an increase of '83 per 1,000 as compared with the average for the previous five years.

Of the 2,184 invalids, 2,025, giving a ratio of 18·54 per 1,000, were for disease, and 159, a ratio of 1·45 per 1,000, were for injury.

For the invaliding ratios on the several stations, see Medical Statistical Returns of the total force, Table No. 3.

In addition to the information given in Tables 1 and 3, a separate table, which includes invalids from Marine Headquarters, will be found at pages 10 and 11, giving particulars as to age and length of service of all officers and men finally invalided out of the Service.

¹This number includes men temporarily invalided from Foreign Stations, many of whom are again able to join the Active Force. The number finally invalided represents the waste of the Service from this cause during the year.

Home.

In comparison with the average ratios of the previous five years, the ratio per 1,000 of force invalidated has decreased in the Mediterranean from 31.99 to 16.25; in China, from 24.1 to 22.04; in Australia, from 18.56 to 16.14; Cape of Good Hope, from 24.47 to 14.03; Irregular List, from 16.44 to 15.78; and Atlantic Fleet, from 25.7 (three years' average) to 16.48. In three stations there have been increases, viz., Channel, from 13.99 (three years' average) to 15.75; North America and West Indies with Fourth Cruiser Squadron, from 18.42 (three years' average) to 18.84; and in the East Indies, from 31.08 (five years' average) to 45.34.

The total number of deaths was 369, giving a ratio of 3.37 per 1,000—a decrease of .54 in comparison with the average ratio for the last five years. Of this number, 227, or 2.07 per 1,000, were due to disease, and 142, giving a ratio of 1.3 per 1,000, to injury.

The ratios of deaths from disease and injuries on the several stations will be found in the Medical Statistical Returns of the Total Force, Table No. 3.

In comparison with the death ratios of the preceding five years, the ratio per 1,000 decreased from 4.18 to 2.04 in the Mediterranean; from 4.5 to 2.29 in China; from 4.47 to 3.72 in Australia; from 4 to 3.7 at the Cape of Good Hope; from 2.89 (3 years' average) to 2.12 in Channel Fleet; from 3.27 (3 years' average) to 2.01 in the Atlantic Fleet. In three stations there have been increases, viz., in the East Indies from 7.27 (5 years' average) to 7.55; North America and West Indies with Fourth Cruiser Squadron from 2.9 (3 years' average) to 3.83; and Irregular List from 3.89 (5 years' average) to 4.78.

A table (No. 4) will be found in the Medical Statistical Returns of the Total Force showing the ratios per 1,000 of Force of all cases of disease and injury entered on the sick list, invalidated and dead, on the various stations during the year under review.

France.

The following are the principal appointments which have been made: Capitaines de Vaisseau—M. E. De Kergrohen de Kermadio to "Ernest Renan"; J. B. E. Cauvy to "Jules-Michelet"; L. A. S. Mottez to "Condé." Capitaines de Frégate—A. P. Morache to "Rapière," and Command of 1st Channel Torpedo Flotilla; A. R. Beaussant to "Bombarde," and Command of 1st Ocean Torpedo Flotilla; E. Darcy to "Mousqueton," and Command of 1st Mediterranean Torpedo Flotilla; P. Y. Méléart to "Chateaurenault."—*Journal Officiel de la République Française.*

The Superior Council of the Navy.—Under the new organisation, the Council is at present composed of the following officers: Inspectors General, Vice-Admirals Caillard, Germinet, Marquis and Philibert; as Chief of the Staff, Vice-Admiral Marin-Darbel and Vice-Admiral Jauréguiberry, the only flag officer who has left command of a squadron within the previous two years.

Reorganisation of the Technical and Other Committees.—A decree in the *Journal Officiel* also modifies the composition of the Technical Committee of the Navy, and re-establishes the Permanent Committee for trial of ships and for control and commissioning of ships.

France.

The Technical Committee is to consist of

- 1 Vice-Admiral (President).
- 2 Rear-Admirals.
- 3 Superior Officers of the Navy.
- 1 Superior Officer Mechanician.
- 1 Superior Officer of Naval Artillery.
- 2 Superior Officers, Naval Engineers.
- 1 Lieutenant as Secretary.

Commission Permanent d'essais will consist of

- 1 Rear-Admiral (President).
- 1 Superior Officer of the Navy.
- 1 Superior Officer, Naval Engineer.
- 1 Superior Officer of Naval Artillery.
- 1 Superior Officer Mechanician.
- 1 Lieutenant as Secretary.

Commission Permanent du Réglement d'armement :

- 1 Rear-Admiral (President).
- 2 Superior Officers of the Navy.
- 1 Superior Officer, Naval Engineer.
- 1 Principal Mechanician.
- 1 Superior Officer of Naval Artillery.
- 1 Principal Commissary.
- 1 Superior Officer, Naval Medical Service.

Creation of a Naval Artillery Corps.—The Chamber, without discussion, has passed the *projet de loi* introduced by the Minister of Marine for the creation of a Naval Artillery Corps, *corps d'ingénieurs d'artillerie de la marine*. The new Corps, which takes the place of the old Corps, officered from the Colonial Artillery, will consist of 3 General officers, 52 superior officers, 40 engineers of the rank of Captain, and an indefinite number of engineers of the rank of Lieutenant as may be found necessary. The engineers of the Naval Artillery Corps will be recruited from Lieutenants in the Navy, Naval Engineers, the land Artillery, and the Colonial Artillery, and the officers of the now extinct Corps of Naval Artillerists, who will form the nucleus of the new Corps.

Report of Rear-Admiral Le Pord.—In his report of proceedings, Rear-Admiral Le Pord, who commanded the 2nd Division of the 1st Squadron sent to New York for the Hudson-Fulton celebrations, after praising the hospitable and cordial way in which officers and men were received by the American Navy and the people of New York, goes on to say: "Our three battleships, *Justice*, *Liberté*, *Vérité*, nicknamed by the Americans the three bulldogs, produced the best impression, and in fact by its power and homogeneity was the most imposing group of all the foreign divisions." He adds that in contrast with the embroidered full dress uniforms of other nations, the French frock coat, even with epaulettes, had a poor appearance, and does not seem a suitable dress for ceremonial occasions such as those in which the officers had to take part.

New Docking Regulations.—The Minister of Marine has directed that different classes of ships are in future to be docked at the following periods, and that in all cases the time in dock is to be as short as possible.

France.

- | | |
|--|----------------|
| 1. Torpedo Boats, Destroyers and Submarines | 7 to 9 months. |
| 2. Cruisers and Avisos | 10 to 12 " |
| 3. Battleships, Armoured Cruisers and Transports | 15 to 18 " |
| 4. Wooden and Coppered Vessels | 24 to 26 " |

New Trial System of Work in the Dockyards.—The Under-Secretary of State for the Navy has ordered the trial of a new system of work at Lorient Dockyard, which is an interesting experiment. It is of the nature of sub-contracts by the men themselves. Groups of workmen will be allowed to tender for certain work at an agreed price, the sole condition being that the hours of labour are not to exceed the regulation 8 hours of the workmen's day. If the system works satisfactorily and gives an increased ratio of production, as is hoped, it will be extended to other dockyards and naval establishments.

New Distribution of Submarines.—The Minister of Marine has made a new distribution of the submarines, and their stations in future will be as follows:—

Calais.—One group (offensive): *Germinal, Ventôse, Pluviôse.*

Cherbourg.—Two groups (offensive): *Floréal, Prairial, Messidor, Rubis, Emeraude, Opale* (shortly to be replaced by the *Archimède*). One group (defensive): *Phogne, Naiade, Ludion, Méduse.* Spare submarine: *Français.*

Brest.—One group (offensive): *Watt, Cugnot, Fresnel.* One group (defensive): *Triton, Silure, Espadon, Sirène.* Spare submarine: *Aigrette.*

Toulon.—One group (offensive): *Monge, Topaze, Saphir, Cigogne.* One group defensive, namely, Five submarines of 70 tons.

Bizerta.—One group (offensive): *Papin, Circé, Calypso.* One group (defensive): *Korrigan, Gnome, Follet,* plus two submarines of 700 tons.

Oran.—One group (offensive): Three submarines of the *Fructidor* class.

The remaining submarines will be placed in the category "on trial" or in "reserve."

This new disposition creates two new groups of submarines, 1st at Brest, at the entrance to the Channel, 2nd at Oran in the narrow part of the Mediterranean Sea.—*Le Temps* and *La Vie Maritime.*

Germany. *Launches.*—On the 30th of September last the new first-class battleship *Ostfriesland* was successfully launched from the Imperial Dockyard, Wilhelmshaven. She is the second of the improved *Dreadnought* type of battleship to take the water, the first of the type, the *Helgoland*, having been launched a few days earlier (the 25th September) from the Howaldt Yard at Kiel. The *Thuringen*, the third of the class, was launched on the 29th November from the Weser Yard, Bremen, so that Germany has now seven battleships of this formidable type afloat, and an eighth, the *Ersatz Frithjof*, building by the Schichau firm, at Elbing, is to be launched before the end of the year.

Two of the first group of four of this formidable class of ship, the *Nassau* and *Westphalen*, have already been taken over by the Authorities, and as soon as their trials are completed, will be attached to the First

Germany.

Squadron of the High-Sea Fleet; the two others of this group, the *Posen* and *Rheinland*, are to be ready for service during the coming spring, but the *Helgoland* and her two sisters will not, it is expected, be ready before the summer of 1911. These eight battleships—including the *Ersatz Frithjof*—will form the new First Squadron of the High-Sea Fleet, and are to be stationed at Wilhelmshaven. All these eight ships are fitted with reciprocating engines, so that for steaming and evolutionary they will form a practically homogeneous squadron.

Although official details are not as yet forthcoming, yet it is believed that the dimensions of the *Helgoland* and her three sisters are as follows:—Length, 456 feet; beam, 88 feet 6 inches; draught, 27 feet, with a displacement of 22,500 tons. The armament to consist of twelve 11-inch—12-inch are mentioned in some quarters—twelve 5·9-inch and twenty 3·4-inch guns, with five submerged torpedo tubes. The reciprocating engines are to develop 22,500 I.H.P., giving a speed of 19 knots, which, as the trials of the *Nassau* are showing, is likely to be appreciably exceeded. The arrangement of the main battery guns is still unknown; but, according to *La Vie Maritime*, the guns will be mounted in six 2-gun turrets, four on the centre line (with Nos. 2 and 3 higher than Nos. 1 and 4, so as to fire over them) and two on the broadside (one on each side) *en échelon*.

It is reported that the new battleships of this year's programme are to be fitted with turbine engines. Two of these ships, the *Ersatz Hildebrand* and the *Ersatz Heimdall* have already been laid down; the *Ersatz Hildebrand* being under construction in the Imperial Dockyard, Kiel, and the *Ersatz Heimdall* at the Vulcan Yard, Stettin.

The following vessels, exclusive of destroyers, are at present under construction:—

Name.	Displacement.	Where Building.	Remarks.
<i>Battle-ships.</i>			
<i>Nassau</i>	18,500	Wilhelmshaven ...	Under Trials
<i>Westphalen</i>	18,500	Weser Yard, Bremen	
<i>Rheinland</i>	18,500	Vulcan " Stettin	Launched Sept. 24, 1908.
<i>Posen</i>	18,500	Germania Yard, Kiel	" Dec. 12, 1908.
<i>Helgoland</i>	22,500	Howaldt Yard, Kiel	" Sept. 25, 1909.
<i>Ostfriesland</i>	22,500	Wilhelmshaven ...	" Sept. 30, 1909.
<i>Thuringen</i>	22,500	Weser Yard, Bremen	" Nov. 29, 1909.
<i>Ersatz Frithjof</i>	22,500	Schichau " Elbing	Building.
" <i>Hildebrand</i>	22,500	Imperial " Kiel ...	"
" <i>Heimdall</i>	22,500	Vulcan " Stettin	"
<i>Armoured Cruisers.</i>			
<i>Blücher</i>	15,000	Imperial Yard, Kiel	Under Trials.
<i>Von Der Tann</i>	19,000	Voss and Blohm, Hamburg	Launched March 20, 1909.
<i>G.</i>	22,000	" "	Building.
<i>H.</i>	22,000	" "	"
<i>Protected Cruisers.</i>			
<i>Mainz</i>	4,300	Vulcan Yard, Stettin	Under Trials.
<i>Köln</i>	4,500	Germania Yard, Kiel	Launched June 7, 1909.
<i>Augsburg</i>	4,500	" "	" July 10, 1909.
<i>Ersatz Falke</i>	—	Where building Uncertain	—
" <i>Bussard</i>	—	" "	—

—*Marine Rundschau* and *La Vie Maritime*.

United States.

Steam Trials.—The collier *Mars*, on 20th August, passed the last of her tests at the Norfolk Navy Yard to the entire satisfaction of the Naval Board, and will be formally accepted by the Government. After taking on board 7,500 tons of coal at Newport News she went to sea, stopping off the Delaware Breakwater, where she took on board the members of the Naval Board who were to conduct the test. The contract called for the vessel to develop twelve knots an hour on a twenty-four hour continuous run, which she exceeded, her official time being 12·63 knots, while on a single hour's run she developed over thirteen knots. In addition to the requirement of making twelve knots an hour when carrying 7,500 tons of coal, the colliers must be able to discharge that cargo within seven and a half hours, or at the rate of 1,000 tons an hour. There are ten hatches on the *Mars*, from each of which is operated a clamshell bucket with a capacity of a ton at a grab. Each bucket makes 100 round trips an hour, thus giving the required capacity of 1,000 tons within that time. The new collier, which is to proceed to the Pacific Coast, is 403 feet in length over all, 385 feet between perpendiculars, 53 feet beam and 32 feet 6 inches depth of hold. She has twin screws, each propeller being driven by a triple expansion engine whose cylinders measure 22, 37 and 60 inches in diameter, with a stroke of 42 inches. Steam is furnished by four large Scotch boilers, each 15 feet in diameter by 10 feet 9 inches long, carrying a working pressure of 200 pounds. The *Mars* was built by the Maryland Shipbuilding Company, at Sparrows Point, Md. The *Vulcan* and *Hector*, under construction, are sister ships.

The new battleship *South Carolina* finished her official trial runs off the Delaware Capes on 27th August, and the consensus of opinion of the experts is that she is the fastest battleship in her class and most economical in coal consumption. Unofficial data concerning the trial is as follows:—On the four-hour endurance run the *South Carolina* consumed 1·4 pounds per indicated horse-power per hour. On each of the two twenty-four-hour runs the battleship consumed 1·5 pounds per indicated horse-power per hour. On the first twenty-four hour run, at 17½ knots, the engines developed 110½ revolutions a minute, one and a half above the requirements. On the second twenty-four-hour run, at 12½ knots, 77 revolutions a minute were indicated, three above requirements. In seventeen runs over the Lewes course, which is a measured mile in length, the highest speed attained was 20·52 knots. The average for the five highest speed runs was 19½ knots. The standard set by the Government for the ship was 18½ knots, and 19½ knots is the highest average speed attained by a vessel of this type. During the deep water run at sea of four hours she averaged 18·88 knots an hour. To get this speed she burned 1·39 pounds of coal per indicated horse-power per hour, which is the low record for coal consumption, being one-tenth of a pound under the average.

The new torpedo-boat destroyer *Flusser*, on 1st September, made a record of three knots faster than that of any ship in the United States Navy in a standardisation trial, the first of her official acceptance trials, on the Rockland mile course. Her fastest mile was made at the rate of 33·7 knots an hour, while another was at the rate of 33·4 knots. The average of her five top speed runs was 32·7 knots. The contract speed requirement is 28 knots.

United States.

The *Flusser* is equipped with Parsons turbines. She was to be ready for delivery on 28th September. The *Flusser* left Rockland, Me., 2nd September, on her water consumption test of twenty-four hours.

The new torpedo-boat destroyer *Smith* on 22nd September made thirty-two knots at hour, four knots more than required by contract, in the standardisation run on the standard mile off the Delaware Break-water. The *Smith* carried nearly fifty tons more weight than was required on this run, the additional weight having been placed on board for the four hours run which followed.

The new torpedo-boat destroyer *Reid* made a maximum speed of 34.548 knots, it is reported, on her trial on 6th October, on the Rockland, Me., course. These figures indicate that the *Reid* is nearly a knot faster than her sister destroyer, the *Flusser*, the record holder in her class. In an unofficial builders' trial the *Reid* covered a mile at the rate of 32.1 knots.

Enlisted Strength of Navy.—The present enlisted strength of the Navy is shown in the following table, prepared in the Bureau of Navigation from returns up to 30th June, 1909, and giving comparisons with 1907 and 1908 :—

	1907.	1908.	1909.
Number in service	33,027	39,048	44,129
Applicants enlisted	14,329	21,929	18,723
Percentage of desertions	9.04	9	5.5
Purchase of discharge	139	604	533
Percentage of re-enlistments	32.2	57	65
Number in insular force (Filipinos)	541	620	441
Percentage of citizens	93.1	95.4	95.7
Percentage native born	82	87	88.4

During the year ending 30th June, 1909, there were 92,000 applicants for enlistment.—*Army and Navy Journal*.

MILITARY NOTES.

Home. The following are the principal appointments which have been made :—

Lieutenant-General—Sir Bruce M. Hamilton, K.C.B., to be General Officer Commanding-in-Chief the Scottish Command. Major-Generals—Sir James R. L. Macdonald, K.C.I.E., C.B., to Command the Troops in Mauritius; Ronald C. Maxwell, C.B., to have charge of Administration, Southern Command; A. E. Codrington, C.V.O., C.B., to Command of London District. Colonels—F. J. Davies, C.B., to Command 1st Infantry Brigade (Aldershot Command), with temporary rank as Brigadier-General; Sir J. Hanbury-Williams, K.C.V.O., C.M.G., to be Brigadier-General in charge of Administration (Scottish Command); F. S. Garratt, C.B.,

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D.S.O., to Command 4th Cavalry Brigade (Eastern Command), with temporary rank as Brigadier-General; H. J. Du Cane, M.V.O., to be Assistant-Quartermaster-General (Aldershot Command); W. R. St. John, R.E., to be Chief Engineer (Hong Kong).

Territorial Force.—Major-General—The Hon. A. H. Henniker-Major, C.B., to Command 1st London Division.

Presentation of Colours by the King to Territorial Battalions.

—On the 17th ult. His Majesty presented colours to the 5th, 6th, and 7th Territorial Battalions of the Cheshire Regiment. The ceremony took place in the great quadrangle in front of Eaton Hall. Among those present were General Sir Charles Burnett, K.C.B., K.C.V.O. (Western Command), and the Staff of the Western Command; Major-General F. Lloyd, C.B., D.S.O., Commanding Welsh Division; Brigadier-General A. E. Ommaney, C.B., Commanding Cheshire Brigade (Territorial Force); and the officers and detachments of men from the three Cheshire Battalions. Boy Scouts, in their picturesque dress, were lined up on each side of the Territorial detachments. The King, in Field-Marshal's uniform, appeared in the hall portico shortly after eleven o'clock, accompanied by the Duke of Westminster, wearing the uniform of a Lord Lieutenant, and Colonel Wilford Lloyd, his private secretary, in the uniform of the King's Bodyguard. The Bishop of Chester and the battalion chaplains moved to the colours, which were piled on drums and guarded by six officers, and the Bishop then read the dedicatory prayers, consecrated the colours, and pronounced the Benediction. The colour parties next advanced to present the colours, the subalterns saluting and kneeling on the left knee, at the same time the colours were lowered until they were nearly horizontal for the King to touch. The colours were then let fly, and the parties moved off to the head of their several detachments, who saluted, the band playing meantime. This was followed by a Royal Salute and three hearty cheers for the King. The Territorial detachments and Boy Scouts then marched past. The King, before retiring, commanded Colonel Bromley-Davenport, chairman of the County Association, to present the members of his Association.

Army Training.—General Sir John French, Inspector-General of the Forces, has issued his comments on the squadron, battery, and company training carried out during the current drill season. He considers that the results of squadron training are most satisfactory. The squadrons in most cases have attained a standard of efficiency which does great credit to the commanders.

The Inspector thinks that both in the training and inspection of squadrons attention is apt to be devoted too exclusively to the squadron as a single unit, and in consequence its training as a part of the regiment, with the resulting practice in co-operation, is somewhat neglected. The numbers on parade often compare unfavourably with the strength on paper, and in many squadrons more men might have been available for the ranks. The methods of instruction in equitation indicate the necessity for more careful teaching of instructors. There is too much

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mere following and too little work calling for individual riding. Instructors are apt to content themselves with remarks of a general nature instead of correcting the faults of individuals. They should invariably be mounted to illustrate practically the methods that they are teaching. In mounted drill the principle of each troop's continuing to be a real unit when the squadron is in line is not always sufficiently understood either by leaders or men. It is necessary that all ranks should understand that the principles laid down for the "march in line" of a single troop are equally applicable to a troop in squadron. The leading of officers and non-commissioned officers in command of troops is reported in many squadrons to be capable of considerable improvement, especially as regards the maintenance of direction. In the practice of the attack the Inspector-General points out that there is a tendency to increase the pace too early and to too great an extent before the command "Charge" is given. On the command: "The line will attack," the pace may be slightly increased; but up to the moment of the "charge" every horse must be thoroughly in hand, and men must be riding close, and there must be two distinct and well-defined ranks. The shorter the distance over which the "charge" is made, the fresher will be the horses for the actual shock, and the later the moment up to which perfect order can be preserved.

The nature of its duties places cavalry, especially small bodies of cavalry, constantly in situations where attack is possible from any direction, and Sir John French thinks it essential that it should become a second nature to every cavalry commander, down to the leader of a patrol, at all times to take adequate measures for the security of the unit which he commands. The systematic training of a "marked enemy" has not yet received sufficient attention, and every regiment should be ordered to keep trained a skeleton regiment, consisting of one captain, as regimental commandant, three subalterns, as squadron leaders, and one non-commissioned officer, with flag, and two men, to represent each troop.

The practice of associating officers of the R.H.A. with cavalry, and cavalry officers with the horse artillery batteries, is considered to be capable of further extension. Whenever a squadron is detached "on its own," the opportunity should be taken of attaching to it a section of horse artillery under the command of an officer; where no guns are available, the section can be represented by flags.

Battery Training.

Every endeavour appears to have been made to carry out the provisions of Field Artillery Training; but in some cases the early date fixed for the annual practice rendered adherence to the regulations impossible, and Sir John French points out that brigades which are ordered to practice at the beginning of April cannot complete battery and brigade training between the close of the furlough season and the date of practice.

Company Training.

Company training is now carried out in a practical and satisfactory manner. The strength of companies at training in proportion to total numbers shows an improvement, although in some cases there seem to be

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still too many exemptions, and in others it has been found that scouts and signallers have not been training with their companies, as Sir John French would have them do. The instruction appears to be thoroughly progressive; the only exception noted is in the practice of intrenching. It is advisable that men should first be taught to provide cover for themselves individually, proceeding later to the construction of combined and more elaborate intrenchments. More attention has been given to the employment of covering fire, to which attention was drawn by the Inspector-General last year, and to night operations, both with admirable results. On the other hand, the training in outpost work has not been so satisfactory. The principle of employing the company as outpost unit does not seem to be clearly understood by all officers, for in allotting duties to a company the support is frequently omitted. Instructions as to the arrangements for resistance also are seldom clear, and are not always in accordance with the provisions of Field Service Regulations. A prevalent failing is the neglect to watch the flanks when engaged in operations. This precaution is necessary, especially when a force so small as a company is manœuvring independently. Often the scouts are recalled to the company when contact with the enemy is obtained. This, the Inspector thinks, is caused by misapprehension of the instructions contained in "Infantry Training," which direct that scouts who are checked when preceding an advance should rejoin their companies. Scouts, as a rule, appear to be well trained, but officers seldom make sufficient use of them.—*The Times*.

France. *The Autumn Manœuvres, 1910.*—Army Manœuvres lasting ten days, not including the time necessary for concentration and dispersal of the troops, will be carried out in the north under the direction of General Trémeau, Vice-President of the Superior Council of War.

There will take part in these manœuvres the IInd (Amiens, General Joffre) and the IIIrd (Rouen, General Meunier) Army Corps, the 8th, 16th and 26th Battalions of Chasseurs, the group of Zouave battalions of Paris, the 5th Colonial Brigade, and the 1st Cavalry Division. The artillery of the two army corps will be completed under later dispositions to 30 batteries per corps.

Army Corps Manœuvres, also lasting ten days, will be carried out by the XVIth Corps (Montpellier) and the XXth Corps (Nancy), under the direction of their respective commanders, Generals Marion and Maunoury.

The other army corps will carry out divisional manœuvres, lasting 14 days, or brigade manœuvres for 12 days, going and returning included.

There will be four cavalry manœuvres, lasting 8 days for the two first and 7 days for the two last, which will be carried out by:—

- (1) The 2nd and 5th Divisions; (2) the 6th and 8th Divisions; (3) the 7th Division, reinforced by a brigade; (4) two provisional divisions, each composed of two corps brigades.

The other corps cavalry divisions and brigades will carry out evolutions and manœuvres lasting six days, and will, moreover, take part in the Grand Autumn Manœuvres.

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Some infantry units and cyclist companies will take part in all the cavalry manoeuvres.

Reorganisation of the French Artillery.—The artillery Reorganisation Law of 24th July, 1909, has entailed a considerable increase in the ranks of the captains and field-officers of that arm. As the number of lieutenants of artillery at the present time is already incomplete, whilst there is an excess of 800 in the infantry, a decree of the 11th October authorises the passing into the artillery of 150 lieutenants from the infantry.

In order to allow of these officers obtaining the necessary technical instruction before taking command of a unit, it is expedient, reports the Minister of War, that they serve at least three years as lieutenants in the artillery; consequently are only permitted to change to this arm: (1) lieutenants whose commissions are posterior to the 1st January, 1904; and (2) those who, commissioned anterior to the 1st January, 1904, consent to take rank at that date. Under this reserve, the infantry officers admitted into the artillery preserve their seniority, but are placed after artillery officers of the same seniority as themselves.

The applications of the candidates, accompanied by certificates from their commanding officers, were to be forwarded to the Minister of War, and the nominations would take place in two series—the 1st November, 1909, and the 1st April, 1910. Before joining their regiments for duty, the newly-appointed officers will undergo a four months' course of instruction at the Artillery School at Fontainebleau; those of the 1st term from the 15th November, 1909, to the 15th March, 1910; those of the 2nd term from the 15th April next to the 15th August.

The allowance for change of uniform is fixed at 275 francs (£11), and the allowance for saddlery, etc., which every officer receives on transference for the first time from an unmounted appointment to a mounted one, at 295 francs (£11 16s.).

Allowance of Cartridges for Firing Exercises.—The number of ball and blank cartridges for rifles and cavalry and artillery carbines allowed under the Budget (1909-10) to each officer and man of the Active Army is fixed as shown in the following table:—

Arms and Services.	Number of Cartridges.	
	Ball.	Blank.
Infantry	170	50
Cavalry	88	18
Artillery	24	—
Engineers	170	50
Train	24	—

The men of the Reserve and of the Territorial Army are also entitled to cartridges for both kinds of firing, but in less proportion than the men of the Active Army.

For revolver practice the officers of all arms, as well as the men armed with revolvers in the infantry, cavalry, and engineers, receive 36 ball cartridges; the men of the other arms and services, 24. Cavalry

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officers and men are allowed in addition 12 blank cartridges; those of other mounted troops, 6.

Independently of revolver cartridges allowed free to subaltern officers taking part in regimental firing competitions, officers, officials, and military *employés* of officers' rank, of the Active Army and of the Territorial Army are entitled personally to an allowance of 30 revolver ball cartridges, at a charge of one centime (one-tenth of a penny) per cartridge, and they can have in addition 90 ball cartridges at a charge of six centimes (three-fifths of a penny) each.

The machine gun sections dispose of 10,000 ball and 10,000 blank cartridges, except the sections detailed for the defence of fortresses, who only receive 5,000 cartridges of each kind for guns on a tripod, and 2,000 for those machine guns placed *en barbette* on the ramparts, in *camponnières* or turrets.—*Bulletin de la Presse et de la Bibliographie Militaires*.

The Kaiser Manœuvres, 1909. — The manœuvres which **Germany** took place between the 13th and 17th of September last, were remarkable for several reasons. In the first place the effective strength of the troops present represented one-fifth of the Prussian Army on the peace footing, that is 125,000 men. In addition, for the first time since the foundation of the German Empire, all the troops of the Southern States—Bavaria, Wurtemberg and the Grand Duchy of Baden—took part side by side with them; then the theatre of the operations was the same as that where, forty-three years ago, the Germans of the South met those of the North in a hard-fought struggle as bitter enemies. At that time the Prussians were already fighting in accordance with the tactical principles of that great military thinker, Moltke, to whom quite recently the old Prince Regent of Bavaria inaugurated a bust placed in the Walhalla at Regensburg. At the same time as the ceremony in honour of the great Moltke was taking place, the manœuvres were taking place under the direction of his nephew, Helmuth von Moltke, the Chief of the Prussian Grand General Staff. He also may be proud of the results obtained. The coincidence of these two events has permitted German unity once more to manifest itself in concrete fashion.

We propose to make some brief observations on the last manœuvres.

The Blue side, commanded by General von Bock und Polach, was composed of the 1st Bavarian Army Corps, the XIIIth Wurtemberg, and a Corps of combined cavalry; each Corps consisted of 2 infantry divisions of 2 brigades each, 1 brigade of field artillery, and 1 of cavalry. The Cavalry Corps was composed of 2 divisions of cavalry, of 3 and 2 brigades respectively, 1 sub-division of signallers, and 1 of machine guns. As a total the Blue side counted 52 battalions of infantry, 67 squadrons, 47 batteries of field artillery and 4 batteries of foot artillery.

The Red side was commanded by General Field-Marshal Prince Leopold of Bavaria, who, as a young captain, served in the war of 1870, and whose brilliant conduct at the fight at Villepion (1st December) won for him the iron cross. The forces at his disposal consisted of the IIIrd Bavarian Army Corps, the XIVth Baden and of a combined corps formed

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of a Baden and Bavarian division, making a total of 74 battalions, 67 squadrons, 62 field batteries, and 7 foot artillery batteries; he thus had 22 battalions and 10 batteries more than his opponent, who, however, on his side had a cavalry effective superior by 10 squadrons.

For the first time the general plan of operations allowed of the two opposing sides forming two completely independent armies, whilst ordinarily they have only been flanking columns of a main army. This new arrangement had the great advantage of leaving a very great liberty of decision to the commanders of the respective sides. The following was the tenour of the scheme of operations: "Whilst the troops of the Blue Army concentrate on a distant strategic point, the Red State orders the mobilisation of its army." We may say that both sides at once carried out their operations to meet the requirements of this situation. General von Bock, who had at his disposal an army already assembled, immediately took the offensive, which for the first four days seems to have been crowned with success. On his side, Prince Leopold temporised with much skill; he stood his ground, then broke off the fight, then made a push forward at the right moment, waiting his opportunity for the decisive moment to strike the decisive blow, delaying until he had completed the concentration of all his forces, separated in some cases by several hundreds of kilometres. The success of his plan was only possible, thanks to the absolute confidence that the Prince had in the endurance of his troops for marching, and thanks to the dispositions taken by his two immediate subordinates. The 13th, 14th, and 15th September, the Red infantry covered, on an average, 50 kilometres (31 miles) a day; the Rhenish Jägers from Schlettstadt did as much as 65 kilometres (40½ miles) the 15th September, whilst the 110th Badeners and the 6th Bavarians covered 62 kilometres (38½ miles), without appreciable loss. The battalions were about 700 men strong, among whom was a very large proportion of Reservists; No. 84 infantry brigade, for example, who draw their recruits from the industrial country about Pforzheim, had half their effective strength made up of Reservists but little trained to marching.

The *Infantry* have shown once more, in the course of the last manoeuvres, that it quite recognises its rôle as the principal arm, that upon it falls the heaviest work during the whole course of the battle, and it has further shown how completely it has risen to the demands made upon it.

All the deployments were, on the whole, well carried out; the terrain has been utilised in such a way that sometimes it was impossible to distinguish anything whatever of the movement of the troops. The principles of the new training regulations have produced their fruits; all the infantry have completely assimilated them. On the other hand, it is to be regretted that this work "of adaptation to the reality" was not completed by the use of the dark grey uniform which has been adopted in principle for war; this was due, unfortunately, to motives of economy. It is practically certain that in future wars the enemy will be less and less visible, and it would seem necessary that in manoeuvres we should habituate ourselves to this practical invisibility.

The *Cavalry* were only supplied with the new regulations this year; but it may fairly be stated that the spirit and tendency of these have

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already been fully grasped. Notably, in the rare cases where it was necessary, the charge, the old method of cavalry fighting, was resorted to; while, on the other hand, the frequent dismounted fighting showed that the mounted arm was proving itself equal to the exigencies of modern tactics. Infantry officers themselves were forced to recognise that the cavalry adapted themselves so readily to this method of fighting that they were able to hold their own against an infantry attack. For the rest, armed as the cavalry now are with the new carbine which fires the same bullet (s) as the infantry, their influence in the fire fight will be much that of the infantry; moreover, in the future it will be difficult to distinguish them, when fighting dismounted, from the infantry, since they will wear the same dark grey uniform and similar head-dress. It is hardly necessary to lay stress on the importance of this.

The result of the experience with the "Cavalry Corps" has shown that this unit was decidedly clumsy and not mobile enough, in spite of the multiplied means of communication and for the transmission of orders possessed at the present day. Since this instrument, placed in the hands of so eminent a leader as General von Kleist, was unable to do all that one had a right to expect from it, there must be something inherently wrong in its organisation. We may lay down in principle that the stronger a cavalry unit is numerically, the more difficult it is to lead, and we may even deduce this conclusion that its tactical value decreases in inverse proportion to its numerical value; too large a unit loses in effect the characteristic advantage of cavalry, rapidity in decision, followed by rapidity in execution. The gain in effective strength is annulled by the loss of that essential quality, mobility. It may be foreseen that the organisation of cavalry corps will be suspended, and that instead several cavalry divisions will be placed under the same command.

The *field artillery* and the heavy artillery exerted themselves without ceasing to carry out what they considered their immediate duty, that is, of supporting the advance and offensive movement of their infantry; they made special use of fire under cover, and made good use of the undulating ground of South Germany, in order to mask the placing of their batteries, which invariably rapidly came into action.

With regard to *machine guns*, it was impossible for ordinary observers, although their cracking fire could be heard, to locate them. Here, again, every advantage in the ground was taken and the utmost skill displayed in the use of this arm.

The *technical troops* also worked well; the telegraphists, signallers, aeronauts, and the volunteer automobilists and bicyclists, all seemed fully imbued with the capital importance of maintaining good and constant communication between the different arms.

The automobile wagon columns, whose special duty it was to supply the cavalry divisions, had this year a particularly difficult duty to perform. We have been assured, however, that they proved able to surmount all the numerous difficulties against which they had to contend in the bad weather, the swampy state of the roads, often narrow and very steep, and the very considerable distances which they often had to cover.

Thanks to the great distance which, this year, had to be taken into account, wireless telegraphy proved to be of real value. Several stations on different systems were established with the army com-

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manders, each cavalry division, and on the dirigible balloon. Telegraphs and telephones were also constantly employed.

Before the commencement of hostilities, the *Direction des Manœuvres* had established a neutral telephonic network extending for some 400 kilometres (248½ miles) which encircled the whole scene of operations, disposed of 24 stations, and at several points was joined up to the State system. The officers of communications of the *Direction des Manœuvres* attached to the commanding generals, had, in addition, at their disposal telegraph sections who could at any moment connect up a new line with the neutral network. In this manner the *Direction* was kept continually in touch with its officers and with the field umpires.

The use of field kitchens has shown this year, beyond doubt, that the inconveniences attached to them—lengthening the columns and increase of *impedimenta*—are largely compensated by the enormous advantage which it is for the troops to have always with them food sufficient to restore their powers. Units, which seemed quite worn out and incapable of making a single effort more, were seen to resume their march or battle after an hour's rest, during which they were able, thanks to the mobile kitchens, to consume a hot and well-prepared meal. And this result shows superabundantly the necessity of supplying all units with these wheeled kitchens; once more may be pointed out the extreme difficulty there is in bringing up the provision and baggage trains sufficiently soon for the troops to use them on their arrival at their bivouac or cantonment.

The event which excited the liveliest interest was the employment of the dirigible balloon *Gross II*. For the first two days it was kept stationary; on the 13th September it began to fly shortly after the commencement of hostilities, but towards 1.20 p.m. it had an accident. The village of Oberschüpf, where it took the ground, is about 50 kilometres (31 miles) from Gailenkirchen, its point of departure. On the 14th it once more remounted about 11 a.m., but at 12.35 it landed at its garage where it passed the rest of the day repairing; for the following three days it kept in the air successively for 10½ hours, 11 hours, and 6 hours, flights during which it sometimes came to ground for a short time. These operations would have been of immense importance in reality, and everybody admired the steadiness of its flight and the ease of its movements. The weather was not altogether favourable to the observations of the *Gross*; nothing can be done against fog, but at least it equally affects both sides. Perhaps balloons of the rigid type (*Zeppelin*) offer more resistance to rain and the wind than the non-rigid French or German balloons, and for this reason are more fit for field work. The question of altitude is not yet solved; the balloon ought to remain as much as possible at an altitude of from 1,300 to 1,500 yards; but it appears that the *Gross*, if it reaches these altitudes, has difficulty in maintaining them, so that it has many times exposed itself to fire. On the other hand it has rendered great service by its wireless telegraphy communications; these communications were never cut. *Gross II* is the first dirigible to be fitted with a wireless telegraphy apparatus; trials have been made with the *Zeppelin III*, which appear to have given good results, but no installation has yet been definitely fixed.

We cannot finish this rapid glance at the results of the manœuvres of 1909 without a few words on the remarkable services rendered by the

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Railway Administration, the Railway Section of the General Staff, and the divers heads of the lines interested. It was certainly a great feat to transport 90,000 men in 24 hours without modifying by a minute the usual time table for the passenger trains, a feat all the more remarkable and deserving of all praise that it was accomplished without a hitch or the least delay, more especially when it is remembered that at the last moment, in consequence of the course of events, a great number of the stations for entraining had to be altered. Thus the organisation of our railways as well as our army have shown themselves at these manœuvres worthy of the heavy responsibilities which rest upon them.

From the political point of view, the presence at the manœuvres of the Arch-Duke Francis Ferdinand, heir to the Austrian Throne, is to be noted. The Emperor William had attended a few days previously at the Grand Austrian Manœuvres, which for some years now have been personally conducted by the Arch-Duke. Since the critical events of last spring, Germany and Austria have marched side by side; this autumn the two supreme heads of the two armies have been able to appraise the value of each of them, and we do not doubt that the impression received is fully up to their legitimate hopes.—*Revue Militaire Suisse*.

The German Army Wheeled Kitchen.—In the *Deutsche Militärärztliche Zeitschrift* of 5th October, 1909, Stabsarzt Dr. Georg Schmidt gives a full description with three illustrations of the mobile German field kitchen.

The kitchen consists of a limber and carriage. The limber is fitted with seats for a driver and a cook. It carries 200 emergency rations, forage, tea, coffee, and salt, as well as various kitchen implements. A backboard lets down to form a table. Fresh meat and vegetables can also be carried on it if required.

The carriage, which is the actual kitchen, contains a 40-gallon cylindrical boiler, a 14-gallon kettle and a fuel box. The boiler is made of pure nickel, and has a copper jacket; between it and the jacket there is a space of one-third inch filled with glycerine, which has a boiling point of 290° C. The fire-places for the boiler and the kettle are distinct, and have each its own flue leading into a collapsible chimney. A large nickel tea or coffee strainer, with tap, is also provided. All accessory appliances, e.g., coffee roaster, coffee grinder, ladles, etc., are carried in special compartments.

The empty kitchen wagon weighs 1,870 lbs.; when fully equipped and loaded, 2,895 lbs. It is drawn by two horses.

The cooking of a meal, with coffee, requires about 37 lbs. of wood, or 30 lbs. of coal. The fuel boxes together hold 84 lbs. of wood, or 100 lbs. of coal, or 51 lbs. of wood and 84 lbs. of coal.

When two daily meals are cooked, this provision of fuel, using wood alone, is sufficient for one day; using wood and coal, for two days; and using coal alone, for three days.

The glycerine lasts four to five months, it does not freeze, and prevents the food from being burnt.

Rice, potatoes and meat cut into large pieces are placed in the boiler along with the necessary quantity of water, and the boiler lid is then fastened down. With a moderate fire the contents begin to boil in about an hour; 20 minutes after this the chimney and fireplace are closed,

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and cooking continues automatically. Rice and potatoes take about three-quarters of an hour, pulse $1\frac{1}{2}$ to 2 hours, pork $\frac{3}{4}$ to 1 hour, meat $1\frac{1}{2}$ to 2 hours. If the food is to be kept for any length of time in the boiler, it must be re-heated every 12 hours in order to maintain the temperature at 50° C. If the temperature is allowed to drop below 50° C. the food is inclined to become sour.

With a moderate fire the kettle will begin to boil in about $\frac{1}{4}$ hour. The fire and flue traps are then half closed. Half of the ground coffee is then put into the strainer and well stirred round, and the remainder of the coffee is then added. Five minutes later the fire can be allowed to go out.

This kitchen was tried in the manœuvres of 1909 by the medical units of the Guard, IXth and Xth Army Corps, and gave great satisfaction. Its adoption for the whole German Army will, it is estimated, cost £950,000.—*Contributed by General Staff.*

Monument to the 1st Dragoon Guards.—For the first time since the war of 1870, it is noted, Germans in uniform crossed the French frontier, when ten officers and sixty veterans of the 1st Dragoon Guards, which made the famous cavalry charge on Mars-la-Tour, 16th August, 1870, cutting off Marshal Bazaine, commanding the French forces, and preventing the retreat of the French from Metz to Verdun, attended the unveiling of a monument to the regiment on the battleground where 16,000 Germans were killed or wounded. The affair was arranged between M. Pichon, the French foreign minister, and Prince von Radolin, the German ambassador to France. The monument, which consists of a huge boulder from the province of Brandenburg, contains the simple inscription, "The Dragoons Charged Here."—*Army and Navy Journal.*

Report of the Chief of Staff.—The report of the Chief of Staff of the Army, Major-General J. F. Bell, is devoted to a considerable extent to subjects

already considered in reports heretofore published. As to Cuba and Porto Rico, General Bell says: "Due to the recent withdrawal of the Army from Cuba, it will be possible, after a time, to allow regiments returning from tropical service to remain in the United States four years. One fact stands out prominently in the history of the Army of Cuban Pacification, and that is that the officers and men so conducted themselves as to win the praise and confidence of the Cuban people and merit the commendation of the Government of the United States. It is now hoped that sufficient properly qualified citizens of the island will apply for appointment as second lieutenants to fill the existing vacancies in the Porto Rico Regiment. Otherwise it will probably become necessary to fill vacancies from those not natives. No change is favoured until this has been clearly demonstrated."

We are told that as the results secured in the camps of instruction held in 1908 amply justify the expenditure, it is recommended that a similar appropriation be made for the ensuing fiscal year. The efficiency of the mobile Army is creditable, but it could be materially improved by reducing the number of officers on detached service, especially the captains

United States.

For the first time a systematic attempt has been made to secure a proper Infantry equipment. If it results in securing an improved Infantry equipment it may be advisable to convene similar boards for the other branches of the Army.

"Hiding tests and physical training," General Bell says, "should not be abolished, but conditions connected therewith can undoubtedly be improved, and modifications of the system suggested by experience will shortly be submitted. All new measures and departures from what is usual must expect opposition until they become well established custom. The present system of target practice was violently opposed by many when first established. So were post exchanges and practice marches. It is believed that the physical examinations now being held will result in the finding of only a few officers below field rank physically disqualified."

The records of small-arms firing for the year 1908 show a constant but very marked improvement, due in great measure to the stimulating effect caused by the extra compensation awarded for skill in marksmanship. There is more or less fraud, chiefly in the present skirmish run, as it is generally impossible for company officers to determine whether or not individual men were firing on their own targets. If the new system of skirmish practice provided for in the manual is strictly adhered to, and commissioned and non-commissioned officers exercise all possible care, the possibility of fraud should be practically eliminated. One sub-target gun machine is to be issued to each squadron of cavalry and battalion of infantry for use in sighting and aiming drills. With these and the improvements in the ammunition, continued improvement in rifle practice can be confidently expected. Orders issued during the current year provide for holding departmental and Army competitions every other year. This will reduce materially the number of officers on detached service during the years when competitions are not held. For the same reason the representation of commissioned officers from each regiment has been reduced from two to one.

A board of carefully selected officers of different arms of the Service, and including in its membership representation from the staff departments, has been carefully studying the needs of the entire Army for nearly eighteen months. It is hoped that their final report will provide a military policy which can be followed in any future increase in any of the different departments or arms of our Service. The report will show the needs of the entire Army, and it is hoped that, as a result, there will be secured in time a well-proportioned and properly balanced Army, organised along modern lines.

If the experiments now being made in the Philippines in raising fresh vegetables to supply the needs of the Army there prove successful it will result in materially decreasing the actual cost to the Government, and solve a difficult problem.

On 30th June, 1909, less than one-half of the companies of the mobile Army were commanded by captains. It is believed that a fair proportion of the captains now on detached service can be either relieved outright or replaced by field officers or first lieutenants. Second lieutenants of less than five years' service should be retained with their organisations, for the reason that while officers are serving in that grade they are in the formative period of their service, and need to serve directly under officers of experience in order that they may be properly trained for the higher grades.

United States.

General Bell does not approve of the practice which has grown up in recent years of calling upon the Army to participate in military tournaments, fairs and other public gatherings not essentially patriotic. Systematic instruction and training are at times seriously interfered with, and a heavy drain is made upon the appropriations for the support of the Army for purposes not essentially military. The demands of this nature are constantly increasing, although the War Department has enunciated the policy that requests for the Army to take part in fairs or other entertainments not strictly military shall be denied.

It is estimated that a reserve force of 50,000 men, costing, approximately, \$2,000,000, would provide for a trained force twice the size of our present mobile Army, and thereby more safely ensure itself against war. A law which will provide a satisfactory reserve force for the mobile Army is one of great importance, and might well be made to apply also to the organisation of a reserve for the National Guard of the several states. With organisations of the Regular Army and Organised Militia expanded promptly to war strength a fairly efficient force would be available to cover the mobilisation and training of our volunteers.

The creation of a general service corps would greatly increase the efficiency of the Army.

A most important matter for the general welfare of the country is the passage of a comprehensive measure for the organisation of a Volunteer Army, to be raised only after Congress has made a declaration of war. Such a measure would not cost a dollar in time of peace, but would be of inestimable value if the country ever engages in another war. The passage of such legislation will permit of the preparation in peace of all the necessary plans for the organisation, equipment and supply of such a force, and the selection of places for mobilisation. Without the necessary legislation all such matters must be deferred. The necessity for this legislation should be again urged upon Congress.

NAVAL AND MILITARY CALENDAR.

DECEMBER, 1909.

- 2nd (Th.) 2nd Bn. Cameron Highlanders arrived at Madras from North China.
 8th (W.) XIIth Brigade, Royal Horse Artillery, and XVIIth Brigade, Royal Field Artillery arrived at Bombay from Durban.
 " " 2nd Bn. Loyal North Lancashire Regiment arrived at Bombay from Mauritius.
 11th (Sat.) 1st Bn. Welsh Regiment embarked at Southampton for Egypt.
 17th (F.) Presentation of Colours by the King to the 5th, 6th, and 7th Territorial Battalions of the Cheshire Regiment at Eaton Hall.
 20th (M.) 4th Hussars arrived at Southampton from Durban.
 21st (T.) 4th Bn. King's Royal Rifle Corps arrived at Karachi from Southampton.
 23rd (Th.) Launch of first-class battleship *Utah* from Camden Yard, New Jersey, for United States Navy.
 27th (M.) 2nd Bn. Argyll and Sutherland Highlanders arrived at Southampton from Durban.
 28th (T.) 1st Bn. Scottish Rifles arrived at Durban from India.

FOREIGN PERIODICALS.

NAVAL.

ARGENTINE REPUBLIC.—*Boletín del Centro Naval*. Buenos Aires: October, 1909.—“The London Convention.” “Some Considerations on Naval Hygiene” (*concluded*). “Tests of Cordite and the Ingredients of which it is Composed.” “Observations on the National Code of Signals.” “Reminiscences of General Kuropatkin.” “Examination of Springs: Formula for Cylindrical Spiral Springs.” “Firing Instruction.” “Preservation of the Boilers of Torpedo Boats.” “Some Data in regard to the Argentine Navigation Companies and the Principal Owners of the Country.” “Proposed Reform of the Calendar.”

AUSTRIA-HUNGARY.—*Mittheilungen aus dem Gebiete des Seewesens*. No. 1. Pola: January, 1910.—“Progress in Warship Machinery.” “A New Method of Prognosticating the Weather.” “The French Armoured Cruiser *Ernest-Renan*.” “The New War Harbour at Dover.” “Law Regulating the Superior Naval Council, the Admirals’ Committee, as well as the Committees for Superintendence of Shipbuilding and Ships’ Trials in the Italian Navy.” “The Fairfax-Nauty Patent Compass.” “The Torsionmeter.”

BRAZIL.—*Revista Maritima Brasileira*. Rio de Janeiro: October, 1909.—“The Staffs of the Naval Forces.” “The Japanese Naval Manœuvres, 1908.” “Practical School of Artillery” (*continued*). “Armoured Submarine Cruisers.” “A Study on Comets.” “Hydro-Electrical Forces in Brazil.”

CHILE.—*Revista de Marina*. Valparaiso: September, 1909. — “The Superior School of the Navy.” “Importance of the Petroleum Districts of Carelmapu.” “Some Considerations on Electrical Waves and their Application to Telegraphy.” “Errors arising from the Incorrect Weight of Projectiles.” “Naval Education.” “The Treaty of Portsmouth.” “Armoured Torpedo Boats.” “The Armament of Modern Battleships.”

FRANCE.—*Revue Maritime*. Paris: November, 1909.—“Statistics of Shipwrecks and other Mishaps at Sea in 1907.” “Marine Engines: New System of Automatic Lubricating.” “The English Colonies and the Imperial Navy.”

La Marine Française. Paris: December, 1909.—“Where is the Navy?” “Useless Ships and New Constructions.” “Promotion and Discipline.” “Reform and Method: Expenses and Results.” “The Recruiting for Petty Officers for the Navy.” “The Enquiry into the State of the Navy” (*concluded*).

La Vie Maritime. Paris: 10th December, 1909.—“The Battleships.” “The Report of M. Henri Michel on the Naval Estimates.” “The Battleship Justice.” “The Battleships of the Danton Type and their Foreign

Rivale." "Rochefort Naval Base." "A Russian Naval Division at Algiers." 25th December. — "Two Navies: France, Germany." "The Anglo-German Rivalry and the Position of the French Navy." "The Ships of the Line." "The New Form of Masts."

Le Yacht. Paris: 4th December, 1909.—"The Reform of the Naval School." "Yachting Notes." "The Benjamin Constant at La Seyne." "The Maritime Decadence of France." 11th December.—"The Report of M. Michel on the Naval Estimates." "Yachting Notes." "The German Armoured Cruiser *Blücher*." "General Inspections and Grand Councils." "Russian Ice-breaking Vessels." 18th December.—"Fire Direction." "Yachting Notes." "The Clearing of the Channels." "The Fight against Fire in the Large Modern Ports." 25th December.—"The Administrative Reorganisation of the Navy." "Yachting Notes." "The Collision between the *Dard* and the *Henri IV*." "The Building Slips and Workshops of St. Nazaire (Penhoët)."

Le Moniteur de la Flotte. Paris: 4th December, 1909.—"The *Iéna* and the Proposed 23,000-ton Battleship." "Naval Tactics." "The Morocco Medal." "The Navy in Parliament." "The German Naval Estimates." 11th December.—"The Guns of our Future Battleships." "Promotion among the Men of the Fleet." "The Navy in Parliament." 18th December.—"The *Archimède*." "The Administrative Reorganisation of the Navy." "The Council of State." 25th December.—"The Law of Numbers." "The Administrative Reorganisation of the Navy." "The Navy in Parliament."

GERMANY.—*Marine Rundschau.* January, 1910.—"The British Sea and Land Forces Question and the Imperial Conference of 1909." "The Firing at the *Iéna*." "The Navigation of the Air." "The Seizure of the North Pole." "The 11th Ordinary Meeting of the Shipbuilding Association: Second Day." Exchange of Views on the Essay: "The Use of Torpedo Boats in Daytime."

ITALY.—*Rivista Marittima.* Rome: November, 1909.—"Calculations on the Movements of Ships Sailing in Opposite Directions." "Progress in the Chemistry of Explosives." "Wireless Telegraphy to Benadir." Supplement.—"The Freedom of the Sea in the History of International Law."

PORTUGAL.—*Revista Portuguesa, Colonial e Marítima.* Lisbon: October, 1909.—"Régime of the Native Proprietary." "The *Aguada Bar* and the Port of *Mormugão*." "Life in the Tropics." "Genealogical and Biographical Data of some Fayal Families."

Annaes do Club Militar Naval. Lisbon: October, 1909.—"Some Ideas on the Organisation on board Ships." "Military Operations against the Slave Traffic in 1902." "Naval Hygiene." "Some Remarks on Lord Kelvin's Needle with Magnetic Moderator."

SPAIN.—*Revista General de Marina.* Madrid: December, 1909.—"Progress of Artillery." "Brief Considerations on the Stability of our

Smokeless Powder." "Construction, Management and Organisation of Modern Warships." "The Military Industry of Powders and Modern Explosives." "The New Constructions." "The Evolution of the Austrian Navy." "On the Life of Guns of Heavy Calibre."

MILITARY.

AUSTRIA-HUNGARY.—*Danzer's Armee-Zeitung*. Vienna: 9th December, 1909.—"The Military Value of Airships." "Sommerleutnants." "The Military Pause." 16th December.—"Germany's Generals and General Staff as Educators of her Army in Peace!" "The Law of Natural Succession." "The Endangered Position of Russia in East Asia." "The German Kaiser-Manœuvres in 1909." 23rd December.—"The Dëbacle." "Sixteen Years of Turkey!" "Army Politics." "Boxing in the Army." "The Wheeled Kitchens at our Manœuvres." "World Language and Knowledge." "The Fate of the Sick and Wounded after the Fall of Port Arthur." "The Military Use of Dirigible Balloons."

Streffleur's Militärische Zeitschrift. Vienna: December, 1909.—"Contributions to the History of the Russo-Turkish War, 1877-78." "Innovations in Military Matters in the Summer Half-year, 1909." "Observations on the Army Manœuvres, 1908, in West Hungary." "Grand Manœuvres of Foreign Armies, 1909." "Night Operations." "The Greek Officers' Movement." "Use of Falling Targets for the Firing Practice of the Troops." "Communications from the Army Musketry School." "Foreign Military Notes."

Kavalleristische Monatshefte. Vienna: December, 1909.—"Prize Essay." "Our Cavalry Divisions up to 1897." "Reiterdienst: A new Work by General Bernhardt." "Our Recruits." "The Spirit of the Attack in the new German Cavalry Regulations." "From the Diaries (1859-1866) of Graf Zur Lippe-Deissenfeld." "An Intelligence Detachment at the Corps Manœuvres in East Galicia, 1909." "On the Pursuit." "The Training of Cavalry Machine Gun Detachments." "The Winter Work of the Russian Cavalry." "A Glance at the German Turf Year, 1909." "Distance Rides." "The Mounting and Equitation Instruction of Officers in the French and English Armies."

BELGIUM.—*Bulletin de la Presse et de la Bibliographie Militaires*: 15th November, 1909.—"Military Institutions of the United States" (continued). "Q.F. Field Artillery with Shields" (concluded). "Japanese Field Service Regulations of 14th October, 1907." 30th November.—"Military Institutions of the United States" (continued). "Japanese Field Service Regulations of 14th October, 1907" (continued).

FRANCE.—*Journal des Sciences Militaires*. Paris: 1st December, 1909.—"Military Impressions of Munich." "Note on the Calculation of Distances." "The Staff Officer." "War and Compulsory Service" (continued). "For the Great Force of the Army and the Better Health of the Nation" (concluded). "Tactical Employment of the Machine Gun in the Offensive Fight." 15th December.—"Pay and Retirement: Our Enquiry." "Military Impressions of Munich" (concluded). "The

Moroccan Army." "The Sanitary Service in the Field" (continued). "War and Compulsory Service" (concluded).

Revue d'Infanterie. Paris: November, 1909.—"Battle Firing" (continued). "The Infantry Battery." "Signalling in the English Army." "Provisional Regulation for the Tactical Instruction of Infantry Machine Gun Sections in the Spanish Army."

Revue de Cavalerie. Paris: November, 1909.—"The Regulations of 1910." "A Study of Sedan" (continued). "The Non-commissioned Officers of Cavalry on Field Service." "A Study on the Precociousness of the Cavalry Horse" (continued). "A propos of the Proposals for the Reorganisation of the Cavalry."

Revue d'Artillerie. Paris: October, 1909.—"The French Artillery Judged from Abroad." "Essay on the Instruction of Non-commissioned Officers in the Field Artillery." "Artillery on the Back of Camels."

Le Spectateur Militaire. Paris: 1st December, 1909.—"Strategical Considerations on the Campaign of 1800 in Italy" (continued). "Invasions at Montargis" (continued). "The Covering of a Strong Fortress in 1815: Belfort and the Corps of the Jura" (continued). "Principles which should serve as a Base for the Organisation Laws" (continued). 15th December.—"New Observations of an Old Infantryman, à propos of the Manœuvres of the 21st Corps." "Strategical Considerations on the Campaign of 1800 in Italy" (continued). "Invasions at Montargis" (continued). "The Covering of a Strong Fortress in 1815: Belfort and the Corps of the Jura" (continued). "Principles which should serve as a Base for the Organisation Laws" (continued).

Revue Militaire Générale. Paris: December, 1909.—Has not yet been received.

Revue d'Histoire. Paris: December, 1909.—"The Dromedary Regiment" (concluded). "The Campaign of 1813: The Preliminaries" (continued). "A Feat of Arms in the Army of Catalonia, July, 1813." "The War of 1870-71: The National Defence in the Provinces" (continued). "A Memoir of Hoche on the State of the Army in the Year V. (1797)." "Unpublished Letters of Napoleon I."

Revue Militaire des Armées Étrangères. Paris: December, 1909.—"The Military Institutions of Peru." "The Grand Manœuvres of the English Army in 1909." "The Manœuvres of the American Militia in 1909."

GERMANY.—*Militär-Wochenblatt.* Berlin: 2nd December, 1909.—"The Hundredth Birthday of General Hermann von Gersdorff." "Operative Mobility." "The Cares of a Company Leader." "Hunting and Shooting Sport of Officers." 4th December.—"Close Scouting." "A Prussian Attack on Swedish Winter Quarters." "Disciplinary Questions in Italy." "Programme for the German Hunting Trophies Exhibition of 1910 at Berlin." 7th December.—"German Political Economy in case of War." "From the Far East." "More on the Placing of Field Artillery in Manœuvres." "The Sanitary Condition of the Army, 1906-07." 9th December.—"The Battle of the Shaho." "Something More on the

Fighting Value of the Cavalry of To-day." "Natural or Artificial Gun-laying in the Field Artillery." "Two New Turkish Military Laws." 11th December.—"On the Employment of Cavalry." "Cairo, Bagdad, Constantinople." "The Committee for the Training of the Russian Troops." 14th December.—"The Addenda 29 and 33 to the Infantry Drill Regulations." "On the Employment of Cavalry" (concluded). "The Articles of War and the Soldiers' Oath of 8th July, 1546." 16th December.—"80th Birthday." "Military Aviation in France." "From the History of the Ottoman Empire up to Abdul Hamid." "News from the Austro-Hungarian Fighting Forces." 18th December.—"Peasants on the Chess Board." "News from the Austro-Hungarian Fighting Forces" (concluded). "From the History of the Ottoman Empire up to Abdul Hamid" (concluded). "Preliminary Military Instruction in Switzerland." 21st December.—"Napoleon I.'s Means of Communication" (continued): The Waterways of Napoleon." "The Hotchkiss Machine Gun." "Peasants on the Chess Board" (continued). "The Russian Budget Proposals for 1910." 23rd December.—"Gneisenau." "The Winter Riding Training of the Field Artillery." "The Association for Broadening the Education of the People." "Archives for Military Law." 24th December.—"The Counter Attack." "More on Riderless Field Batteries at the Manœuvres." 28th December.—"The Grand Duke Michael Nicolaivitch of Russia: Obituary Notice." "The Means of Communication of Napoleon I." (continued). "The Senegal Troops and Their Recruiting Bureaus." 30th December.—"One Hundred and Twenty-five Years Ago." "The Means of Communication of Napoleon I." "Individual Training by Day and Night." "The Close of the Year."

Artilleristische Monatshefte. Berlin: November, 1909.—"Result of the Prize Essay." "What Lessons are to be Drawn from the Experiences of the War in East Asia, 1904-05, for the Use of the Artillery in Field War?" "More Demands for the Next Firing Regulations for the Field Artillery." "The Artillery in the New Cavalry and Infantry Regulations." "The Austro-Hungarian Shooting Instruction for Field Guns." "Foot Artillery Observations."

Jahrbücher für die Deutsche Armee und Marine. December, 1909.—"France's Fortifications against Germany, and Their Importance To-day." "Winter Training." "More on the Importance of Light Field Howitzers." "Field Fortification by Troops in Theory and Practice." "The French Military Schools." "The Prize Riding Competition of the Bavarian Field Riding Association at Munich, 5th and 6th June, 1909." "German Colonial Troops."

ITALY.—*Rivista di Artiglieria e Genio.* Rome: October, 1909.—Has not been received.

Rivista Militare Italiana. Rome: December, 1909.—"African Affairs" (concluded). "The Military Decadence of the Most Serene Republic of Venice" (concluded). "Tripolitana" (concluded). "The Grand Manœuvres in Lombardy and Venetia." "Notes and Comparisons between the Forces of Italy and Austria-Hungary" (concluded). "The Victualling of Troops in War." "The Military Forces of the European States: The Montenegrin Army." "The Voice of a Master."

SPAIN.—*Revista Técnica de Infantería y Caballería*. Madrid: 1st November, 1909.—"Words of a Princess." "The German Army." "Our Army in the War of Independence" (continued). "The New Tactics of the German Cavalry." "Aerostation in Our Army" (continued). "Technical and Military Information." 15th November.—"The German Army" (continued). "Our Army in the War of Independence" (continued). "The Priest Pinto Palacios and Captain Vicente Moreno." "Dismounted Fighting for Cavalry." "Aerostation in Our Army" (continued).

Revista Científico-Militar Biblioteca Militar. Barcelona: 10th December, 1909.—"The Last Operations." "The Firing of Artillery Over Infantry." "Satisfactory Conditions for an Automatic Rifle." "Modifications in the German Field Artillery Regulations." "Employment of Megaphones for Transmitting Orders." 25th December.—"The Operations from the 15th to the 30th November." "Before the Festival of the Spanish Army." "The Equation of the Modern Army." "The War Methods of To-day of the Japanese." "The Effect of Artillery Firing Compared with that of Infantry According to the Lessons of the Russo-Japanese War."

SWITZERLAND.—*Revue Militaire Suisse*. Lausanne: December, 1909.—"Colonel Arthur de Techtermann, Commandant of the 1st Army Corps." "Infantry Fighting Across the Ages." "The Imperial Manœuvres of 1909 in Moravia." "Some Observations of the Courses of Training of the Reservists called up in 1909." "The New Cartridge." "The Transport of Machine Guns in Winter."

UNITED STATES.—*Journal of the Military Service Institution*. Governor's Island: November-December, 1909.—"The Japanese Forces of 1909." "The Regular Army in the Civil War." "Campaigning in Florida, 1855." "The Army of Morocco." "The Oregon War of 1855." "The Barcelona Riots." "Preparation for Military Service." "Types and Traditions of the Old Army." "Comment and Criticism."

Journal of the United States Artillery. Fort Monroe: September-October, 1909.—"Balloons and Dirigibles in War." "Some Notes on the Mathematical Principles of the Erdman Compensator as Applied to the Lewis P.D.F. Model of 1907." "A Battle Command, Battle Service Practice." "Report Relative to Calibration of Battery Key." "An Identification Board." "Ammunition and Ammunition Supply." "The Militia as Coast Artillery Soldiers."

Journal of the United States Cavalry Association. Fort Leavenworth, Kansas: November, 1909.—"The Battle of Gettysburg" (concluded). "The Moroccan Cavalry." "The British Veterinary Service Compared with our own." "History of the Articles of War." "Notes on Chinese Military Organisation."

Journal of the United States Infantry Association. No. 3. Washington: November, 1909.—"The Separatist Movement in the Coast Artillery." "Mistakes other than those of Organisation in 1861 and 1862." "The Infantry Pack Problem." "Views on Infantry Equipment." "The Battle Light." "Mounted Orderlies." "Automobile Guns in the Massachusetts Manœuvres." "Out of the Rut." "Ammunition Supply in War."

NOTICES OF BOOKS]

The British Tar in Fact and Fiction. By Commander C. N. ROBINSON, R.N. London: Harper and Brothers.

We congratulate Commander Robinson on his latest book, which want of space has prevented our noticing earlier. It is an interesting, instructive, and artistic work, abounding with naval illustrations reproduced from the original engravings in the possession of the author, the majority of them being of engravings produced in the latter part of the eighteenth century, when stipple work had reached its zenith, for, though this process was known in the days of Dürer and Lucas van Leyden, it had never been practised with any real artistic success until the period of the Bartolozzi School, which flourished in the last half of the named century. The work of that school ever stands out as the highest achievement in this form of art. Commander Robinson gives two good examples of this stipple work, in "the Young Maid and the Old Sailor," by Bartolozzi, after Walton, and "The Middy's Parting," by T. Ryder, after J. G. Huck, as two of his many plates.

Colour printing was at its best between the years 1750 and 1820; it originated soon after the introduction of the stipple process into England by William Ryland in 1738. These colour prints, though perhaps not possessing great artistic merit in the blend of the colours, have become intensely fashionable, and at the same time intensely over-rated. It is difficult to understand why the thirteen prints of Wheatley's "Cries of London," for instance, should ever have commanded the extraordinary price of one thousand pounds. Many excellent representations of naval exploits and actions, together with seafaring scenes of the eighteenth century, were depicted in colour, some being in mezzotint—a process which was only resorted to when the plate had become too worn for ordinary printing—others were produced either in stipple or aquatint, such as many of the plates published by Edward Orme.

Commander Robinson has reproduced an excellent collection of engravings in caricature and "drolls," included among them being many of the publications of Carington Bowles, R. Sayer and J. Bennett, and Laurie and Whittle, together with works of G. Cruikshank, James Gillray, and John Rowlandson. Of ordinary engravings in mezzotint there will be found "On the Forecastle," by W. Ward, after T. Stothard; "The Sailor's Return," an excellent impression by W. Ward, after F. Wheatley; and another with the same title by Hubner, after H. Singleton.

The first two chapters of the book, contributed by Mr. John Leyland, the well-known naval writer, and entitled "The Influence of Personality, 1217—1702," and "The Makers of Victory, 1702—1815," are worthy of careful reading, for they contain much food for thought. Immediately following these chapters, Commander Robinson describes the sailor as he is pictured in the literature of the sea, with his "proper

background of hardship and privation, often of cold and misery," but all the time with a keenness and devotion to duty and with a sturdy, honest and loyal character. He then shows him as depicted on the stage and also as he appears in fiction and in verse.

One of the main features of the work is the portion allotted to naval iconography. The author here shows himself to be an expert in the matter of Art associated with the Navy, and an expert, too, who has devoted many years to the study and service of this most difficult yet fascinating subject.

The information to be acquired from the book is very considerable, and it will afford many hours of intense pleasure to all who read it.

Elementary Military Training. By Lieut.-Colonel A. W. A. POLLOCK.
London: Wm. Clowes & Sons, Ltd.

A few years ago Colonel Pollock produced a useful little volume of "Simple Lectures for Company Field Training," and a fourth edition of these has now been enriched with some new chapters for young officers, and published, with an introduction by General Sir Richard Harrison, under the title of "Elementary Military Training." Much of the new matter consists mainly of papers contributed to reviews and periodicals, but in the chapters on recent training, on attack drill, etc., we seem to recognise the expression of the principles which Colonel Pollock so successfully taught the experimental company, which two years ago was placed for six months at his disposal. It is, then, known to all men that the author is no mere theorist, but that he has practically taught the lessons he inculcates. One chapter—that on "Smartness in Relation to Efficiency"—is new, and has, so we are told, been specially written for the purpose "of endeavouring to counteract the influence of that ultra-modern school which affects to despise the value of drill," and the significance of this chapter is not to be underrated. To all young officers Colonel Pollock's book may safely be commended as an excellent guide to the study of those fundamental principles which all must master before they can fit themselves for higher study, or, indeed, before they can be considered worthy of being entrusted with the instruction and leadership of those who serve under them in quarters and in the field.

PRINCIPAL ADDITIONS TO LIBRARY FOR DECEMBER, 1909.

Trans-Himalaya. Discoveries and Adventures in Tibet. By SVEN HEDIN.
2 vols. 8vo. 30s. (Macmillan & Co., Ltd.). Maps and Illustrations.
London, 1909.

The Valor of Ignorance. By General HOMER LEA, U.S.A. 8vo. 7s. 6d.
(Harper & Brothers.) Maps. New York and London, 1909.

The Last Years of the Protectorate, 1856-58. By C. H. FRITH. 2 vols.
8vo. 24s. (Longmans, Green & Co.) London, 1909.

Essai Sur l'instruction pratique des Cadres dans la Cavalerie. Par le Commandant P.S. 8vo. 2s. 6d. (Berger-Levrault et Cie.) Paris, 1897.

La Garde Nationale de 1870. Contribution à l'Etude des Armées Improvisées. By L. THIRIAUX. Crown 8vo. 2s. 6d. (L'Expansion Belge.) Brussels, 1909.

The Reverend Alexander John Forsyth and his Invention of the Percussion Lock. By Major-General Sir A. J. F. REID, K.C.B., from information collected mostly by Miss M. F. REID. 8vo. (Presented.) (University Press.) Aberdeen, 1909.

Journal of our Mission to Fez, 1909. By the Military Attaché. 8vo. 2s. 6d. (Harrison & Sons.) London, 1909.

A German Staff Officer in India. By Count HANS VON KÖNIGSMARCK. Authorised translation by P. H. OAKLEY WILLIAMS. 8vo. 10s. 6d. (Kegan Paul, Trench, Trübner & Co., Ltd.) London, 1910.

Subject Index of the London Library. By C. T. HAGBERG WRIGHT. 4to. (Presented.) (Williams & Norgate.) London, 1909.

Drill Regulations for the Cavalry of the German Army, 1909. Translated from the *Exerzier Reglement für die Kavallerie*, 3rd April, 1909. General Staff, War Office. 12mo. 3d. (Presented.) (Mackie & Co., Ltd.) London, 1909.

The Russian Conquest of the Caucasus. By JOHN F. BADDELEY. 8vo. 21s. (Longmans, Green & Co.) London, 1908.

The Force of the Wind. By HERBERT CHATLEY. Crown 8vo. 3s. (Charles Griffin & Co., Ltd.) London, 1909.

RECENT PUBLICATIONS OF MILITARY INTEREST.

COMPILED BY THE GENERAL STAFF, WAR OFFICE.

OCTOBER, 1909. PUBLISHED QUARTERLY.

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Continued from December JOURNAL, p. 1688.

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PREFATORY NOTE.

This Pamphlet will be issued quarterly, in April, July, October and January. Its purpose is to draw the attention of Officers to British and Foreign publications of Military interest which are likely to assist them in their professional work. Copies of the pamphlet will be distributed to the Headquarters of Commands, Educational Establishments, Units and Reference Libraries.

PART II.

SECTION I.

Note.—1 When the price is not given in Part II., Section I., it is not known.
2 In Part II., Section I., books whose titles are given in foreign languages as well as in English are published in those languages, and are not translated.

TRAVEL AND TOPOGRAPHICAL.

The Jean Duchesne-Fournet Mission to Abyssinia (1901-1908).
(Mission en Ethiopie—Jean Duchesne-Fournet.) 2 vols. 778 pp. 4to.
Paris, 1909. Masson. £2 8s.

This work, which owes its publication to the relatives of M. Duchesne-Fournet, who died in 1906, has been compiled and edited by members of the mission and scientific friends of the explorer's family.

The mission, consisting of seven members with M. Fournet as leader, proceeded to Abyssinia in 1901 under the auspices of the French Minister of Public Instruction, and had for its object a scientific study of Abyssinia from a geographical, geological, anthropological and sociological point of view.

The journey, which occupied sixteen months, comprised a study of the road from Gildessa to Addis Abeba, by the Asasot route; of the routes from Addis Abeba to Lake Tana, across the Shoa and Gojam plateaux; an examination of the social condition of the riverine population of Lake Tana; and finally a visit to the mining district of Walaga, west of the Abyssinian capital.

The work is illustrated by a large number of photographs and sketches, and is accompanied by an atlas containing daily sketches, made by one of the members of the mission, of the route followed.

An Egyptian Oasis. By H. J. Llewellyn Beadnell. 248 pp. 8vo.
London, 1909. Murray. 10/6.

In this book Mr. Beadnell gives an account of the Oasis of Kharga, in the Libyan Desert, with special reference to its history, physical geography and water supply.

The author spent nine years in survey and exploration work in the Egyptian deserts, and three years in charge of the extensive boring and reclamation operations in the Kharga Desert itself, and consequently possesses unique advantages for writing the present book. The oasis, which is situated 180 miles west of Luxor, is now connected with the rest of Egypt by a railway, and has received renewed attention during recent years in consequence. The source of the water in the oasis is still uncertain, and the author considers that any attempt to explain it must be regarded as little better than conjecture. The native belief is that the water comes from the Nile, and Mr. Beadnell is not prepared to refute this. The question of the inexhaustibility of the supply is a serious one which the Government cannot avoid considering seriously.

Geographical Photographs from Asiatic Turkey. (Geographische Charakterbilder aus der asiatischen Türkei.) By Hugo Grothe. 10 pp., with 176 photographs and 3 coloured maps. 4to. Leipzig, 1909. Hiersemann. 15/-.

In this book the author gives to the public the first result of his journey of 1906-1907 through Asia Minor, Mesopotamia and Persia. A large selection of photographs, with the necessary explanations added, illustrate the districts traversed by him, which, in view of the projected Baghdad Railway, are of special interest.

The photographs selected illustrate the nature of the country, of the population, and of the various forms of dwellings, and a series is devoted to subjects of historical interest, both ancient and modern.

Samoa. By Seigfried Genthe. 306 pp., with 1 map and 1 illustration. 8vo. Berlin, 1908. Allgemeiner Verein. 5/-.

This is the third volume of a series entitled "Genthe's Reisen" (Genthe's travels). The late Dr. Genthe's accounts of journeys in Korea and Morocco form respectively, Vols. I and II. of the series.

In a preface to this (the third volume), the author (Dr. Wegener) describes briefly the political imbroglio which began in 1881 and ended with the division of the islands between Germany and the United States of America, in 1900. Dr. Genthe's notes deal with climatic, industrial, political, and ethnological questions.

The last chapter, dealing with the future of the islands and their colonising aspects, contains some medical particulars useful to white residents.

MISCELLANEOUS.

The French Officer. (L'officier français.) By Jean d'Epée. 154 pp. 8vo. Paris, 1909. Lavanuelle. 1/8.

This book deals with the provision of officers for the French Army and it is interesting to note to how great an extent the reasons given by the author for the deficiency of suitable material are applicable to the present state of affairs in this country.

The author attributes the lack of candidates for the army to the increase of work, a demand for better education and greater aptitude than formerly, and the enhanced responsibility of the rôle of an officer as an educator of a great part of the nation, without a corresponding addition to pay. As a result, the old families of France furnish fewer candidates for the army, while business men who realise that their sons will have to work hard prefer that they should be adequately paid for doing so. Another factor which is pointed out is that, while the officers' pay has remained the same, the general standard of living has been raised, with the result that money does not go so far as it used.

A Study of the Psychology of Troops and their Leaders. (Etude sur la Psychologie de la troupe et du commandement.) By Major Gaucher. 106 pp. 8vo. Paris, 1909. Lavanuelle. 1/8.

This short work forms a somewhat interesting study of the characteristics of the rank and file and their commanders. Major Gaucher borrows largely from the psychological studies of such authorities as Dr. Le Bon and Colonel de Maud'huy, and applies their general principles to the special case of modern armies, with particular reference to the present army of France.

Taking as an axiom that any given body of troops can only be regarded as an organised crowd, he proceeds to show how that crowd, in common with all others, is influenced by its environments and, above all, by the individuality of its leaders.

In addition to a preface by General Bonnal, the book is divided into five parts, of which the second and fifth form the most interesting reading. The former deals with the psychology of education, the latter with that of the men whose duty it is to command. It breathes throughout a fervid spirit of patriotism, and is evidently intended to create and foster a better understanding between the men of the army, of France and their leaders.

"Shall we be Invaded?" ("Serons-nous envahis?") By "un Belge." 62 pp. 8vo. Brussels, 1909. Dewit. -/10.

This little brochure contains a considerable amount of valuable information on the question of the invasion of Belgium. In the first part the author shows in a convincing manner that a country even if its neutrality is guaranteed by the European Powers, is nevertheless insecure without means of defence of its own. In the second part, the various schemes of army reform in Belgium are examined and the author states with lucidity his solution of the problem.

Statistics of Armaments, Population and Commerce of the Great Powers during the last Thirty Years. (Kriegswesen und Volkswirtschaft der Grossmächte während der letzten 30 Jahre.) By W. Ahr. 16 pp., with 21 statistical graphics. 8vo. Berlin, 1909. Vossische Buchhandlung. 2/-.

Herr W. Ahr is an assistant in the Imperial Statistical Department, and this little work is probably of greater value in consequence. The graphics of the growth of population of the Powers from 1800-1906, of the existing peace and war strengths of their armies and the number of ships in their fleets are the most instructive.

A Reply on the subject of the Trials with the New Pattern Foresight. (Antwort auf "Über Versuche mit neuen Kornformen.") By Colonel Baron Bothmer, 10th Hungarian Hussars. 81 pp., with illustrations. 8vo. Vienna, 1909. Seidel. 1/-.

After some years' discussion and a number of practical trials, the Austro-Hungarian School of Musketry finally decided this year against the adoption of a

foresight on what was named the "Kokotovic universal pattern." The reasons why the adoption was not recommended are officially given in the March number of *Streffleur's Magazine*, but the inventor is still of opinion that the School of Musketry arguments can be refuted, and the Colonel of his regiment, in the present publication, endeavours to answer the article in *Streffleur's* alluded to above. It may be explained that the "Kokotovic universal pattern" sight is of larger dimensions than the Birmal pattern, filling up more completely the notch in the backsight. It is more rectangular in shape and less of an "acorn" sight. In the course of the original correspondence, which is quoted, the Austro-Hungarian authorities observe that a type of the so-called "universal" pattern was tried in England with the Mark I. magazine weapon, but discarded in the Mark II. in favour of the former ordinary acorn sight.

Peter Moor's Journey to South-West Africa, a Narrative of the German Campaign. Translated from the German of Gustav Frenssen, by Margaret May Ward. 244 pp. 8vo. London, 1908. Constable, 4/6.

The story narrates the experiences of a private of Marines in the campaign against the Hereros of 1903-04.

Although the author has found difficulty in rendering military technical expressions into English—for example "Schutztruppe" (Protectorate troops) is translated as "home guards"—the book is worth reading, if only to gather information as regards the great hardships which were endured by the German troops owing to want of water and the large number of casualties which occurred, owing to imperfect measures for security.

The Study of Fire Arms. (Waffenlehre). 5th supplement. By Major-General R. Wille. German Army. 116 pp. 8vo. Berlin, 1909. Eisen-schmidt. 5/8.

This book is an index to recent literature on the subject of fire-arms. It is stated in the preface to be in continuation of the index on pp. 387-349 of Volume III. Literature referring to modern small arms and artillery is arranged by countries; other literature is arranged by subjects. Magazines and periodicals are referred to by initials; a list of these abbreviations is given at the beginning of the book.

The Purpose and Development of German State Horse-Breeding in comparison with that of France and Austro-Hungary. (Aufgaben und Entwicklung der deutschen Landespferdezucht im Vergleich zur Landes-pferdezucht in Frankreich und Ungarn.) By Gustav Rau. 100 pp. 8vo. Stuttgart, 1909. Schickhardt and Ebner. 2/6.

The subject matter of the book is that of a lecture on horse breeding delivered to the Board of Agriculture of Schleswig-Holstein on the 6th February last. An appendix has been added dealing with the breeding of Anglo-Arabs in France and of Arabs at the Hungarian State Breeding Establishment at Babolna.

The methods employed in Germany, France and Hungary are dealt with in detail and the pamphlet, as a whole, is interesting and instructive.

Hints for a Course of Instruction in Horsemastership. (Leitfaden zu einem Unterrichtskursus.) By Otto Schumacher. 72 pp. 8vo. Berlin, 1909. Hayn's Erben. 1/-.

This book contains notes on the subject of horsemastership and stable management, suitable for a course of four lectures. It is issued under the auspices of the "Society for the Protection of Horses," an institution somewhat resembling the "Society for the Prevention of Cruelty to Animals" in Great Britain. The object of the lectures is to advocate the use of more humane and intelligent methods in the treatment of horses. Certificates are issued to members of the public who attend a course of four lectures.

Back Numbers from the "Eastern World." By F. Schroeder. 700 pp. 8vo. Yokohama, 1908.

This is a reprint of various articles which have from time to time appeared in the weekly paper known as the *Eastern World*, from its foundation in 1893 until its cessation in 1907. They are from the pen of the editor, Mr. F. Schroeder, who was for some years an officer in the mercantile marine, and although he is a German subject they are mostly written in English. Mr. Schroeder has an intimate acquaintance with the Japanese character, and is always well-disposed towards England. Some of his articles may throw light upon the cause of the exaggerated notions which were prevalent as to things Japanese during the war in Manchuria. That his opinions are worthy of consideration is shown by the accuracy of his forecasts as to the results which Japan would obtain from the war, made at a time when his views were in direct opposition to those of many who considered themselves in a position to judge.

Report of the Proceedings of the Royal Colonial Institute. Vol. XL, 1908-1909. 388 pp. 8vo. London, 1909. The Institute.

This volume contains interesting papers and discussions on many subjects affecting the welfare of the Empire. From a military point of view the papers on "Imperial Emigration and its Problems," by Mr. R. Arthur, and "Indian Aspirations," by Sir Humphry Fuller, are well worth reading. Attention may also be called to the report of the General Meeting of the Fellows, held in April, 1909, to discuss the naval defence of the Empire.

Rapid Night-Marching Made Easy. By Major W. A. Tilney. 15 pp., with 3 charts. 4to. London, 1909. Stanford. 2/6.

This book describes how a night march may be carried out on a starlit night without having recourse to compass bearings during the march. A suitable star is selected and identified on the chart. The bearings of it at specified intervals during

the night, which can be determined by three alternative methods is plotted on cards before starting. By means of these "bearing cards," which can be distributed throughout a column, it is claimed by the author that a force can march more rapidly and with greater accuracy on a given point than by means of the compass.

Some Memories of My Spare Time. By General Sir Henry Brackenbury, G.C.B. 356 pp., with index. 8vo. London, 1909. Blackwood. 6/-.

This book of reminiscences covers a period of thirty-three years, 1853-1886, during which the author had a more chequered and active career than falls to the lot of most soldiers. He saw service in India, Ashanti, Natal and Egypt, and held various staff appointments. This short volume is, however, concerned more with the recollections and personal experiences of General Brackenbury during his leisure moments. At one time or another he met nearly all the great personalities of the Victorian era, and the interesting account of a varied life, which is here presented to us, loses nothing by the humorous and readable manner in which it is described.

PART II.

SECTION II.

MAGAZINE ARTICLES.

(For abbreviations, see page 143.)

AERIAL NAVIGATION.

The Significance of Aerial Navigation for Great Britain. By Major H. Bannerman Phillips. U.S.M., June.

Aeroplanes: the Resistance of the Air. By Colonel F. G. Stone. P.R.A.I., June.

The Wings of War. By Harold F. Wyatt. N.C., September.

The Military Employment of Dirigible Balloons. (A Study of the Article in the "Russki Invalid"—continuation from Part 5 of M.A.G.). M.A.G. (double number), Parts 8 and 9, p. 694.

The Suitability of Airships for Military Purposes. M.W.B., 14th August, p. 2807.

Airships and International Law. K.Z., July, p. 313.

The Balloon employed at Casablanca. K.Z., July, p. 322.

Motors for Airships. K.Z., July, p. 329.

The Employment of Motor Engines in Flying Machines. By Don F.

G. Oltra. M. Art., July.

Aeroplanes and Airships. Ec., 31st July.

Pursuit of a Balloon by a Motor Car. M.W.B., 6th July, p. 931.

Aeroplanes: the Exhibition at Olympia. By Colonel F. G. Stone.

P.R.A.I., July.

On Photography from Balloons. P.R.A.I., July.

The Development of Aerial Navigation and its Importance for the Army and Navy. M.W.B. (I.), No. 73, p. 1679.

Aerial Navigation and the Wright Aeroplane. By Major Crociani.

R.A.G., April.

Observation from Balloons. M.A.G., June.

The Parseval Airship. E., 10th September.

ARTILLERY.

The New Regulations of the German Heavy Artillery. French General Staff. R.M.E., June-July. (To be continued.)

Mountain Artillery *Matériel* (capable of being taken to pieces) on the System Scheider-Danglis (with one diagram). By Lieutenant L. Olivier, French Artillery. R. d'A., April.

Modern Artillery. By Colonel T. Rouquerol. J.S.M., 1st July.

The Engineering of Ordnance. By Lieutenant A. Trevor Dawson. E., 9th-16th July.

Reorganization of the French Artillery. Report of the Special Commission. R. d'A., March. (Conclusion.)

Our Artillery and the Lessons of the Late War. By Major P. N. R.M.G., May.

Indirect Fire from Fortress Artillery. By N. Strogovski. A.J., July.

The Question of Open and Covered Positions. O.M.Z., June.

- The Theory of the Director (Baumann Pattern). M.A.G., June.
- The Russian Regulations on Field Artillery Reconnaissance Work and Means of Communication. M.A.G., June.
- Heavy Guns of the Field Army. Captain Joseph Berger. S.Z.A.G., June.
- The Evolution of the Tactics of Field Artillery, with special Reference to the Russo-Japanese War. By Captain Jevonois. M.Art., April.
- Artillery Trials in Spain during 1908. M. Art., March.
- Analysis of Regulation Percussion Fuses, Model 1896: Suggestions for Improving Them. By Don Dario Diez Marcilla. M. Art., May and June.
- Field Artillery Fire Tactics of the Principal Continental Powers. M.A.G., June.
- Elongated Shrapnel Bullets. M.A.G., June.
- Coast Artillery Questions. M.A.G., June.
- Hints for Shooting with the 24-cm. Siege Mortar. M.A.G., June.
- The Mexican Automatic Rifle (with one diagram). General Mon-dragon. R. d'A., May.
- Lateral Observation for Artillery Fire. Captain Tribout, French Artillery, R. d'A., May.
- The Expansion of our Siege Artillery to War Requirements, and How Should We Prepare for It. By Captain C. J. D. Freeth. P.R.A.I., July.
- Modern Field Howitzer Carriages. P.R.A.I., July.
- The Field Periscope. By Colonel Rouquerol. P.R.A.I., July.
- A Visit to Messrs. Schneider and Co. By Colonel H. A. Bethell. P.R.A.I., June.
- A Loading Practice Machine. By Major J. F. Birch. P.R.A.I., June.
- Infantry and Field Artillery. By Major E. E. Norris. P.R.A.I., June.
- Some Field Firing Experiments. By Major W. J. Rettlie. P.R.A.I., June.
- Three-Gun Batteries. P.R.A.I., June.
- The Development of the French and German Q.F. Gun, and a Critical Comparison. P.R.A.I., June.
- Tactical Views in Russia. P.R.A.I., June.
- Concerning Artillery Action in the War in the Far East. S.Z.A.G., May.
- The New Regulations for the German Foot Artillery. By Major-General Hartmann. S.Z.A.G., May.
- A New Type of Observation Cart. By Colonel Bennati. R.A.G., July-August, p. 83.
- Notes on the Siege and Heavy Field Artillery of Various Armies. By Colonel E. Rubadi. R.A.G., June, p. 330.
- Determination of Longitudinal Deviations at Target Practice, from Photographs of Splash and Target. By Captain J. O. Steger. U.S.A., July-August.
- The Equilibrium of Guns under the Action of Varying Forces. Lieutenant-Colonel P. Charbonnier. R. d'A., June.
- The 75 Battery in the Night Attack of Bou-Denib (15th September, 1908). With photos. Lieutenant P. Frénal. R. d'A., June.
- The New Regulations for the German Garrison Artillery. French General Staff. R.M.E., August. (Conclusion.)
- Artillery Fire in War. Captain P. Farsac. R. d'A., June.
- Field Artillery in a Position of Observation. A.M.B. (II). August, p. 94.
- The Development of Field Guns and the 3-inch Field Gun of the United States. A.M.B. (II), August, p. 100.
- Statistical Calculations for the Strength of Wheels. A.M.B., II. August, 1909, p. 135.
- The Japanese Fortress Artillery Regulations for the Conduct of Fire. (Captain J. Schreiner, Artillery Staff.) M.A.G. (double number), Parts 8 and 9, p. 604.
- Computation of the Trajectory by Means of a Modified Hyperbolic Equation. (Lieutenant von Stauber.) M.A.G. (double number), Parts 8 and 9, p. 575.
- Report on the Re-organization of the French Artillery. By Lieutenant-General von Rohne. A.M.B., July, p. 1.

Artillery Experiences from a Day of the French Manœuvres. By Lieutenant-General von Rohne. A.M.B., 1909, p. 28.

Determination of Velocities of Projectiles and Resistance of the Air. A.M.B., July, p. 47.

Guns for Use against Airships. K.Z., July, p. 306.

Aerial Torpedoes. R.M.S., July, p. 569.

120 mm. Field Howitzers with Rear Trunnions (Schneider System). R.M.S., July, p. 590.

A.B.C.'s Slide Rule. By Captain E. N. Tandy, R.G.A. P.R.A.I., September.

The Expansion of our Siege Artillery to War Requirements and How Should We Prepare for It? By Major A. J. Peile. P.R.A.I., September.

Firing at Captive Balloons. From A.M.B., April, by Lieutenant-General Rohne. Précis of translation by Captain E. H. Collen. P.R.A.I., September.

Shooting of Field Artillery in the Dark. From A.M.B., April, by Lieutenant-General Rohne. Précis of translation by Captain E. H. Collen. P.R.A.I., September.

Battalion Guns of the Future. By Major K. Bernatsky, General Staff. O.M.Z., July, p. 1,045.

The Principles of Fire, and the Technical and Practical Use of the present Rapid Fire Field Artillery. By Major John E. McMahon. U.S.C., July, p. 61.

The Life and Power of Heavy Ordnance. E., 23rd July.

Fire Control Testing Set, at Fort M'Kinley, Maine. By Lieutenant E. W. Cochen. U.S.A., May-June.

The Practical Application of the Artillery Lessons of 1904-5. A.M.B., June, p. 424.

Some Remarks on the Future Development of Fortress Warfare. A.M.B., June, p. 451.

Night Firing for Field Artillery. A.M.B., June, p. 460.

The Shooting of the French Field Artillery. A.M.B., June, p. 432.

Organization and Training of the Royal Canadian Horse Artillery. By Lieutenant-Colonel H. Burstall. C.J., July.

CAVALRY.

General Gallifet. Charles Malo. R.C., July.

The New Cavalry Training Regulations for the German Army. P.S. R.C., July.

The Cavalry of Yesterday and To-day. 2nd part. R.C., July. (Conclusion.)

Light Cavalry Manœuvres. R.C., July.

Clothing and Equipment of the French Cavalry. Jean d'Epée. J.S.M., 15th August.

The New Manœuvre Regulations for the German Cavalry. French General Staff. R.M.E., August. (To be continued.)

What the French are Doing to Encourage the Breed of the Saddle Horse: A visit to the Concours de Saumur. By Lieutenant C. Bridge. C.J., July.

The "Raid" carried out by the Landwehr Cavalry Brigade in May, 1909. By Captain Heinrich Viktorin. K.M., July-August (double number), p. 533.

The Pursuit after Jena and Auerstadt. By Major-General Gradingner. K.M., July-August (double number), p. 554.

Cavalry Attack on Infantry, illustrated by examples from Campaigns. By Lieutenant J. Lang. K.M., July-August (double number), p. 585.

Divisional Cavalry. K.M., June, July, August (double number), p. 594.

A Folding Bayonet for Cavalry. By Captain G. Riedl. K.M., July-August (double number), p. 608.

The Long Distance Ride from Esseg to Mitrowitz (110 kils.). By Captain Baron v. Koejek. K.M., July-August (double number), p. 620.

The Lance Question, p. 643; a New Picketing Peg, p. 644. K.M., July-August (double number).

Taming a Colt. By Lieutenant-General R. S. Baden-Powell. C.J., July.

- Transport Service with the Cavalry Division. By Captain H. F. Percival. C.J., July.
- Canada as a Country for Breeding Remounts. By Lieutenant-Colonel V. A. Williams. C.J., July.
- A Remarkable Cavalry Ride. By Lieutenant Bertrand Stewart. C.J., July.
- The Evolution of the Cavalry Saddle. By Major J. Horton. C.J., July.
- The German Cavalry Training of 1909. By Colonel H. Wylly. C.J., July.
- Cavalry in the Past and at the Present Day (1st part). R.C., May-June. (To be continued.)
- Seydlitz. R.C., May-June. (A continuation of previous articles.)
- Our Cavalry in the Next War. General von Bernhardt (translated from German by P.S.). R.C., April, May, June. (A continuation of previous articles.)
- A Scheme for the Organization of Machine-Gun Sections on Horseback for the Algerian Cavalry. Lieutenant L. M. Vasseur. R.C., May-June.
- The Orders of a Cavalry Regiment (15th Chasseurs) in 1814-1815. R.C., April, May, June. (Conclusion.)
- A List of the Requirements of Cavalry. Editorial. R.C., May-June.
- A Sketch of the Evolution of Ideas regarding Cavalry in the 19th and at the Beginning of the 20th Centuries. Captain I. Pourcher. R.C., May-June.
- The "Lunging" Period of the Recruit's Training. K.M., June.
- The New Riding Institute at Paderborn (Germany). K.M., June.
- The Training of Cavalry Leaders. P.S. R.C., April.
- March and Operations Diary of the 4th Squadron of the 3rd Regiment of Chasseurs d'Afrique attached to the Casablanca Expeditionary Force (with two sketches). R.C., April.

DEFENCE: HOME AND IMPERIAL.

- The Problem of Security and Information in Reference to Coast Forts. By Captain T. F. Dwyer. U.S.A., July-August.
- The Vulnerability of Observing Stations. By Major J. K. Cree. U.S.A., July-August.
- An Ex-confederate's Views on National Defence. U.S.A., May-June. (Concluded.)
- The Location and Tactical Employment of Searchlights in Coast Defence. By Major W. C. Davies. U.S.A., May-June.
- The Geographical Conditions of the Defence of the United Kingdom. By H. J. Mackinder. N.D., July.
- The Organization of Coast Defences. By Major Rocchi. R.A.G., February.
- Hand Grenades. By G. Furzi. R.A.G., April.
- The Protection of the Arteries of the Empire. By Captain R.N. N.D., September.
- A Consideration of Coast Defence Communications. By Lieutenant J. W. Marsden. P.R.A.I., September.

FORTIFICATION AND MILITARY ENGINEERING.

- Engineer Work for Infantry. By Captain A. Romer. R.A.G., June, p. 457.
- A Floating Mattress Bridge. By the Commandant, 1st P.W.O. Sappers and Miners. R.E.J., September.
- Military Engineering at Casablanca (1907-1908) (with diagrams). Lieutenant-Colonel Caloni. R. du G., June-July. (Continued.)
- Military Engineering in China (1901-1906) (with diagrams). Captain Sabatier. R. du G., April-July. (Continued.)
- Extracts from the Memoirs of Colonel Cournaud. R. du G., July.
- A Study of the Close Attack on Port Arthur. M.W.B. (Beiheft), June, p. 213.
- Construction and Utilization of Railways worked by Animal Traction in the Theatre of War during the Campaign of 1904-1905 in Manchuria. A.P. R. du G., April-June. (Conclusion.)

- A Study Comparing the Field Fortifications of France, Russia and Germany (with 30 diagrams). Major Gascouin, French Artillery. L.R.I., 15th July.
- Infantry Footbridge. By Major R. L. M'Clintock. R.E.J., July.
- The Field Tramway of the Russian Second Army at Hsipingai. Translated by Colonel F. E. G. Skey. R.E.J., July.
- The Organization of Coast Defences. By Major Rocchi. R.A.G., February.
- Hand Grenades. By G. Furzi. R.A.G., April.
- Fortifications of Casemate Type in Broken Ground. By N. Kocjanov. Inj., June, July.
- The Organization of Engineer Troops. By Dr. Atrashenko. Inj., June, July.
- The Calculation of Open Charges for Demolition of Timber and Iron. Inj., June, July, August.
- The Special Formation of Railway Pioneer Battalions. Inj., June, July.

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TRANSPORT.

Transport Service with the Cavalry Division. By Captain H. F. Percival. C.J., July.

The Mule and the Horse. By N. E. Grum-Grjmailo. A.J., July.

PART II.

SECTION III.

BOOKS, PAMPHLETS, &c., WHICH HAVE BEEN DISTRIBUTED TO REFERENCE LIBRARIES.

Memorandum by the Army Council on the Existing Army System.

Drill Regulations for the Foot Artillery of the German Army.

The Strategical and Tactical Employment of the Medical Service as carried out in an Army Corps.

ABBREVIATIONS.

Abbreviation.	Name of Newspaper or Periodical.		Price.	Place of Publication.
A.F.	Bulletin du Comité de l'Afrique française	M.	2 frs.	Paris.
A.F.H.	Archiv für Schiffs- und Tropen-Hygiene	M.	•	Leipzig.
A.H.M.	Annales d'hygiène et de médecine coloniale	M.	3 frs.	Paris.
A.J.	Artilleriskii Jurnal	M.	•	St. Petersburg.
A.M.B.	Artilleristische Monatshefte	M.	m. 2.50	Berlin.
A.M.P.	Archives de médecine et de pharmacie militaires	M.	2 frs.	Paris.
A.M.S.	Proceedings of the Aldershot Military Society	W.	/6	London.
A.N.R.	Army and Navy Register	W.	15 c.	Washington.
A.Q.R.	Imperial and Asiatic Quarterly Review	Q.	2/6	Woking.
A.S.C.	Army Service Corps Quarterly	Q.	2/-	Aldershot.
A.S.M.	Allgemeine schweizerische Militärzeitung	W.	•	Basle.
B.Mag.	Blackwood's Magazine	M.	2/6	Edinburgh.
B.M.J.	British Medical Journal	W.	/6	London.
B.P.B.M.	Bulletin de la Presse et de la Bibliographie militaires. (Supplement to J.M.O.B.)	F.	•	Brussels.
B.S.C.	Bulletin international des sociétés de la croix rouge	M.	50 c.	Geneva.
C.J.	Cavalry Journal	Q.	2/6	London.
C. Mag.	Canadian Magazine	M.	25 c.	Toronto.
C.M.G.	Canadian Military Gazette	F.	10 c.	Montreal.
C.O.J.	Colonial Office Journal	Q.	1/6	London.
Con.	Der Continent	M.	m. 1.25	Berlin.
C.R.	Contemporary Review	M.	2/6	London.
D.M.S.	De militaire Spectator	M.	1 fr. 50	Haarlem.
D.M.Z.	Deutsche militärärztliche Zeitschrift	M.	•	Berlin.
E.	Engineering	W.	/6	London.
Ec.	Economist	W.	/8	London.
Emp. R.	Empire Review	M.	1/-	London.
E.R.	Edinburgh Review	Q.	6/-	London.
F.M.F.	Feuille militaire Fédérale	V.	40 c.	Berne.
F. Rev.	Fortnightly Review	M.	2/6	London.
I.J.	Intendanski Jurnal	M.	•	St. Petersburg.
I.M.T.	Indisch Militair Tijdschrift	M.	1 fr. 50	Batavia.
Inj.	Ingeniërs Journal	M.	•	St. Petersburg.
I.R.	Internationale Revue (Armeen und Flotten)	M.	m. 3.25	Dresden.
J.A.M.S.	The Military Surgeon. Journal of the Assoc. of Military Surgeons	M.	35 c.	Carlisle, Penn.
J.A.S.	Journal of the African Society	Q.	6/-	London.
J.D.A.M.	Jahrbücher für die Deutsche Armee und Marine	M.	m. 2.50	Berlin.
J.M.O.B.	Journal militaire Officiel	M.	•	Brussels.
J.M.S.I.	Journal of the Military Service Institution	2 M.	50 c.	Governor's Island, N. York
J.M.S.S.	Journal of the Military Scientific Society (Russian)	Q.	1 Ro. 50kop.	St. Petersburg.
J.R.A.M.	Journal of the Royal Army Medical Corps	M.	2/-	London.
J.R.C.I.	Journal of the Royal Colonial Institute	M.	/6	London.
J.S.M.	Journal des Sciences militaires	M.	•	Paris.
J.U.S.I.	Journal of the Royal United Service Institution	M.	2/-	London.
J.U.S.I. (N.S.W.)	Journal of the United Service Institution of New South Wales	A.	•	Sydney.

W., published weekly; F., fortnightly; M., monthly; Q., quarterly;

V., at irregular intervals; A., annually.

* Periodicals which can only be purchased by subscription.

ABBREVIATIONS.—contd.

Abbreviation.	Name of Newspaper or Periodical.	Price.	Place of Publication.	
K.M.	Kavalleristische Monatshefte ...	M.	k. 2.	Vienna.
K.T.Z.	Kriegstechnische Zeitschrift ...	M.	m.1.50	Berlin.
L...	Lancet ...	W.	-/7	London.
L.A.F.	Comité de l'Asie française, Bulletin ...	M.	2.25frs	Paris.
L.B.M.	La Belgique militaire ...	W.	25 c.	Brussels.
L.R.I.	La Revue d'Infanterie ...	M.	2 frs.	Paris.
L.S.M.	Le Spectateur militaire ...	F.	2 frs.	Paris.
M.A.G.	Mittn. über Gegenstände des Art- u. Genie-WeSENS ...	M.	*	Vienna.
M. Art.	Memorial de Artilleria ...	M.	*	Madrid
M.B.A.R.	Monthly Bulletin of the Bureau of American Republics ...	M.	25 c.	Washington.
M.C.	McClure's Magazine ...	M.	25 c.	New York.
M.I.E.	Memorial de ingenieros del ejército ...	M.	*	Madrid.
M.R.	Marine-Rundschaу ...	M.	m. 2.	Berlin.
M.W.B.	Militär-Wochenblatt ...	W.	20 pf.	Berlin.
N.C.	Nineteenth Century ...	M.	2/6	London.
N.D.	National Defence ...	M.	1/-	London.
N.I.A.	Nation in Arms ...	M.	/3	London.
N.M.B.	Neue Militärische Blätter ...	W.	60 pf.	Berlin.
N.R.	National Review ...	M.	2/6	London.
O.M.Z.	Strengeurs militärische Zeitschrift, zugleich Organ der militär-wissenschaftlichen Vereine ...	M.	*	Vienna.
P.J.	Preussische Jahrbücher ...	M.	m. 2.50	Berlin.
P.R.A.I.	Journal of the Royal Artillery ...	M.	2/6	Woolwich.
P.U.S.I.	Journal of the United Service Institution of India ...	Q.	2 Rs.	Simla.
Q.D.	Questions diplomatiques et coloniales... ..	F.	75 c.	Paris.
Q.R.	Quarterly Review... ..	Q.	6/-	London.
R.A.G.	Rivista di Artiglieria e Genio ...	M.	*	Rome.
R.C.	Revue de Cavalerie ...	M.	*	Paris.
R. d'A.	Revue d'Artillerie... ..	M.	*	Paris.
R.D.D.M.	Revue des Deux Mondes... ..	M.	3 frs.	Paris.
R. du G.	Revue du Génie militaire ...	M.	2.50fr.	Paris.
R.E.J.	Royal Engineers' Journal ...	M.	1/6	Chatham.
R.I.C.	Revue Indo-Chinoise ...	F.	1.50frs	Hanoi.
R.I.M.	Revue du service de l'intendance militaire ...	M.	2 frs.	Paris.
R.H.	Revue d'Histoire ...	M.	2 frs.	Paris.
R.M.B.	Revue de l'Armée belge ...	2 M.	*	Liège
R.M.E.	Revue militaire des Armées étrangères ...	M.	1 fr.	Paris.
R.M.G.	Revue militaire générale ...	M.	2.50fr.	Paris.
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R.M.S.	Revue militaire suisse ...	M.	*	Lucerne.
R.T.C.	Revue des Troupes Coloniales ...	M.	2 frs.	Paris.
S.G.C.	Saint George's Review ...	M.	1/-	London.
S.Z.A.G.	Schweizerische Zeitschrift für Artillerie und Genie ...	M.	*	Frauenfeld.
U.S.A.	United States Artillery Journal... ..	2 M.	50 c.	Fort Monroe
U.S.C.	United States Cavalry Association Journal ...	Q.	50 c.	Fort Leaven- [worth
U.S.I.	United States Infantry Association Journal ...	Q.	50 c.	Washington.
U.S.M.	United Service Magazine (Colburn's) ...	M.	2/-	London.
V.R.K.	Vyestnik Russkoi Konnoiti ...	F.	*	St. Petersburg.
V.S.	Voyennii Sbornik (Military Journal) ...	M.	*	St. Petersburg
V.T.H.	Vierteljahrshefte für Truppenführung und Heereskunde ...	Q.	*	Berlin.

W., published weekly; F., fortnightly; M., monthly; Q., quarterly; V., at irregular intervals; A., annually. * Periodicals which can only be purchased by subscription

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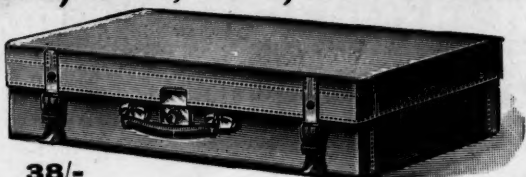
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